BUILD A ONE-OF-A-KIND SOVIET HEAVY TANK »

Kitbash and scratchbuild with styrene to create a super-sized KV-220 – p.28

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REALISTIC FIELD-APPLIED CAMOUFLAGE STEP-BY-STEP

FSM's Aaron Skinner weathers Tamiya's 1/48 scale Zero – p.36

FSM GALLERY: OUR WWI GROUP BUILD p.42

Backdate a historic F-14 Tomcat p.22

Model a dazzling German torpedo boat p.20

BEYOND THE BOX: WE BUILD AND REVIEW 10 ALL-NEW KITS

p.56

p.59

p.54

BONUS ONLINE CONTENT CODE PAGE 5

Vol. 32 • Issue 2

ALL NEW!

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HAVE A FANTASTIC YEAR WITH AIRFIX!

All these brilliant NEW models are coming your way during 2014.

Most of what you see here are the superb CAD designs of Airfix's new range coming out over the next twelve months.

Check with your local stockist for the availability dates; and don't forget to also check out what's already come out during 2013 – they're just as fantastic!

Douglas Dakota MkIII with Willys Jeep 1:72

Higgins LCVP 1:72

Bristol Blenheim MkIV (Fighter) 1:72

English Electric Lightning F6 1:72

Supermarine Spitfire MkVB 1:48

Bristol Blenheim MkI (Bomber) 1:72

Willys Jeep, Trailer & 6PDR Gun 1:72

Folland Gnat 1:48

Supermarine Swift F.R. Mk5 1:72

Hawker Typhoon 1:24

Dornier Do17z 1:72

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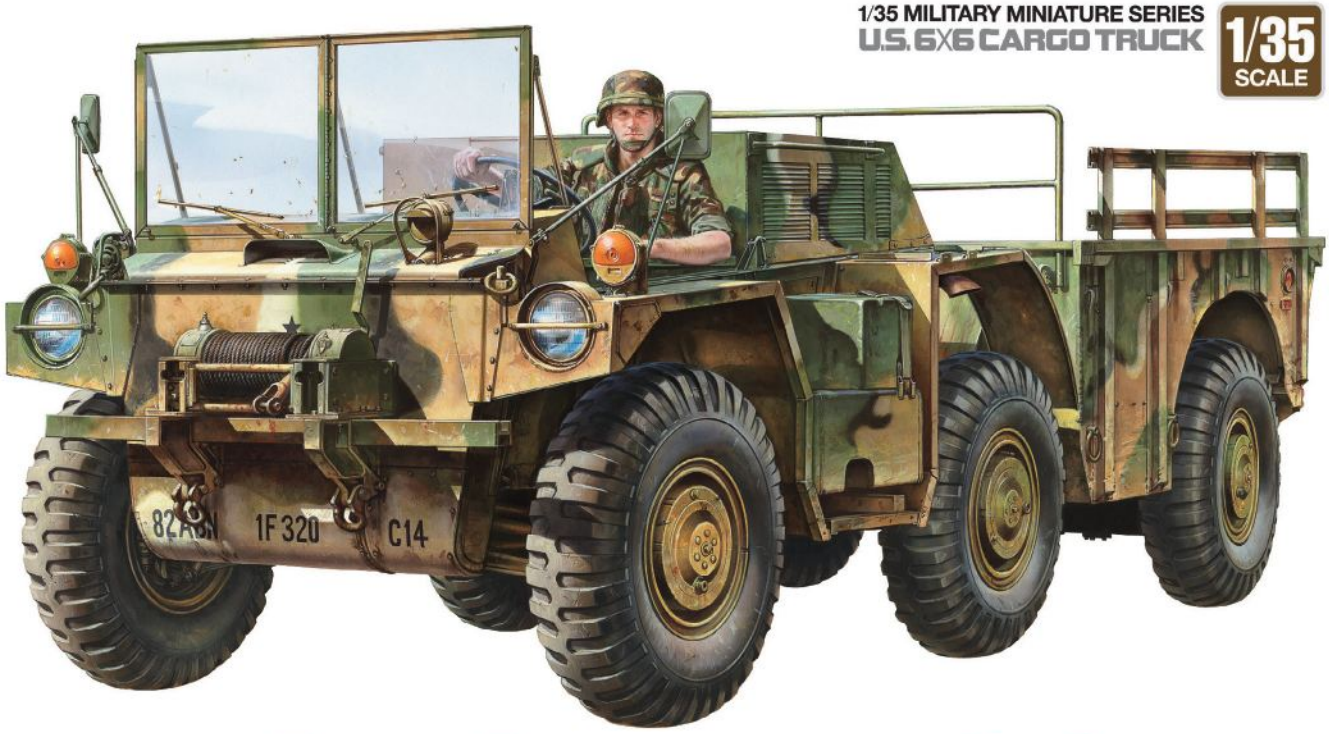

M561 GAMA GOAT

(Item 35330)

For the first time in 1/35 : The unique vehicle which could climb like a goat!

From its 1966 debut, the M561 Gama Goat showed incredible off-road ability, which was thanks to an articulation joint that connected the front tractor and rear trailer units, allowing 60° roll and 80° pitch ranges while also transferring power directly to the back wheels, making the Gama Goat a 6-wheel drive vehicle. This unique mechanism has long made the Gama Goat a hit among military collectors, and it now makes a long-awaited appearance in the 1/35 Military Miniatures series as a model which realistically reproduces the appearance and movement of the cargo truck. As fans have come to expect, this is achieved with a no-fuss assembly. This is an excellent chance for modelers to make a unique addition to their collection in the Gama Goat, which served U.S. forces from the 1960s through the 1980s and saw action in Grenada in 1983.

《About the M561 Gama Goat》 Designed to be amphibious and capable of operating in thick jungle, the Gama Goat needed serious mobility, which it achieved with 6-wheel drive enabled by an articulation joint sending power to the 4 tractor wheels and the 2 on the carrier. Just as impressively, the tractor and carrier could move independently, giving it superlative ability to traverse rough landscapes and leading to its "Goat" nickname. The "Gama" was borrowed from the inventor of the articulation joint, Roger Gamaunt. 14,000 Gama Goats were manufactured until production ended in 1973, and they were used by the U.S. Army and Marines as transport and towing vehicles through to the early 1990s.

Includes driver figure.

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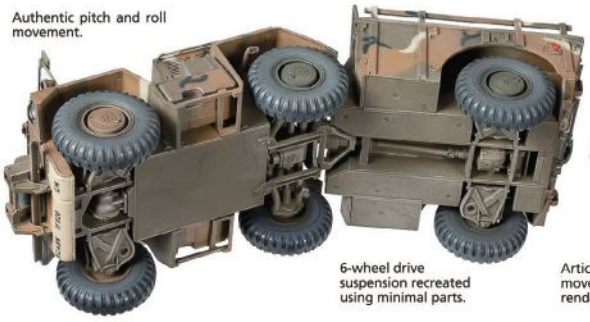
Length: 170mm Width: 62mm

82nd Airborne Division, Grenada, 1983
2-unit form depicted with great realism.

3rd Marine Division, Camp Fuji
Comes with 3 different marking options.

Authentic pitch and roll movement.



6-wheel drive suspension recreated using minimal parts.

Articulation joint movement realistically rendered using poly cap.

★Images show assembled and painted model kit.
★Product may vary from images shown.

TAMIYA

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Inside

February 2014 • Vol. 32 • No. 2

Online Content Code: **FSM1402**
Enter this code at **www.FineScale.com/code** to gain access to web-exclusive content.

57

22

28

36

42

46

AIRBRUSHING & FINISHING

20 Silly Putty masking for a *snazzy schnellboot*
Unique camouflage sets it apart
AARON SKINNER

22 Build a better Tomcat
Academy's F-14 backdated to 1985 to intercept the *Achille Lauro* hijackers
DARREN ROBERTS

28 Building a prototype tank
Two KV-1 kits plus scratchbuilding for a Soviet heavy hitter
CRISTÓBAL VERGARA

COVER STORY

36 Making a good Zero better
Scale Modeling Essentials Part 3: weathering field-applied camouflage
AARON SKINNER

GALLERY SPECIAL

42 *FSM* World War I Aeroplane Group Build
Daring modelers and their flying machines step forth from our Forum

46 Modeling an A3D-2 Skywarrior
Aftermarket accessories help tell the tale of a "Whale"
FRANK CUDEN

WORKBENCH REVIEWS

10 NEW KITS Page 54

- Revell Germany Bf 109G
- HobbyBoss F-80A
- Academy USS *Indianapolis*
- Revell Germany Tornado ECR "TigerMeet 2011"
- Dragon SAS ¼-ton patrol commander's car
- Trumpeter A3D-2 Skywarrior
- Tarangus AB Saab J 29A/B Tunnan
- Xuntong Tupolev Tu-2S
- Airfix Quick Build F-22 Raptor and Apache helicopter

58

59

63

In Every Issue

6 **Editor's Page**
8 **Scale Talk**
12 **Spotlight**
14 **New Products**
34 **Reader Gallery**
50 **Questions & Answers**
52 **Reader Tips**
64 **Hobby Shop Directory**
64 **Advertiser Index**
65 **Classified Marketplace**

On the Cover

FSM Associate Editor Aaron Skinner finishes Tamiya's 1/48 scale A6M3 Zero with weather-beaten field-applied camouflage.

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Editor's Page

By Matthew Usher

Smile for the camera

WELCOME TO the February issue of *FineScale Modeler*! It's a great one (particularly Aaron Skinner's cover-story Zero) and I'm sure you'll enjoy it.

As you may have noticed below, recently we had the grown-up equivalent of school-picture day at the office – all of us had brand-new staff pictures taken. My old one was particularly dated; please

I LOVE HAVING ALL THE MEMBERS OF THE FSM TEAM TOGETHER IN ONE SPOT

don't be alarmed that I'm suddenly a bit grayer and a little lumpier looking than my last photo. It's something I've been working on for a while in my spare time.

All kidding aside, I love having all of the members of the *FSM* editorial team together in one spot. I couldn't ask for a better team of editors to work with every day. They're the reason the magazine maintains its fantastic standard from issue to issue.

In addition to our editorial lineup, I also have to thank our fantastic art staff, Tom Ford, Patti Keipe, and Jay W. Smith. They make sure all the articles not only look great, but also convey all the critical step-by-step information clearly and accurately.

Beyond that, take a moment and look at the list of names in the box on the next page. It's a long list (even in small print) but it could be even longer if we included everyone who works to keep *FineScale Modeler* at the top of its game around the world. Thanks to all of you.

While I hope you enjoy everything in this issue, make sure you stay tuned for next month's installment. In addition to our usual lineup of great modeling articles, it includes a special eight-page section on getting the most from your airbrush. We cover the workings and intricacies of one of modeling's most essential tools, and we interview some of the hobby's top modelers to find out their secrets for success.

Until then, enjoy the issue!

Matthew Usher

editor@finescale.com

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Your Editorial Staff

Editor
Matthew Usher
editor
@FineScale.com

Associate Editor
Mark Hembree
mhembree
@FineScale.com

Associate Editor
Tim Kidwell
tkidwell
@FineScale.com

Associate Editor
Aaron Skinner
askinner
@FineScale.com

Editorial Associate
Monica Freitag
mfreitag
@FineScale.com

Associate Publisher
Mark Savage
msavage
@Kalmbach.com

Contact Us

Editorial: FineScale Modeler
21027 Crossroads Circle, P.O. Box 1612,
Waukesha, WI 53187-1612
262-796-8776, weekdays 8:30 a.m. to 5 p.m. CT
Fax: 262-796-1383
editor@finescale.com
Website: www.FineScale.com

Customer service (subscriptions, renewals, and consumer products):
800-533-6644, weekdays 8:30 a.m. to 4:30 p.m. CT; outside the U.S. and Canada 262-796-8776 ext.421
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262-796-8776 / Fax: 262-796-0126
Advertising e-mail: jhagerty@finescale.com
Trade Sales e-mail: tradesales@kalmbach.com

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Editor Matthew W. Usher
Associate Editor Mark Hembree
Associate Editor Tim Kidwell
Associate Editor Aaron Skinner
Editorial Associate Monica Freitag
Art Director Tom Ford
Senior Graphic Designer Patti L. Keipe
Illustrator Jay W. Smith
Photographers Jim Forbes, William Zuback
Production Supervisor Helene Tsigistras
Production Coordinator Cindy Barder
Group Circulation Manager Kristin Johnson
Circulation Coordinator Carly Witkowski
Associate Publisher Mark Savage

CONTACT US
Customer Sales and Service 800-533-6644
Advertising Sales 888-558-1544
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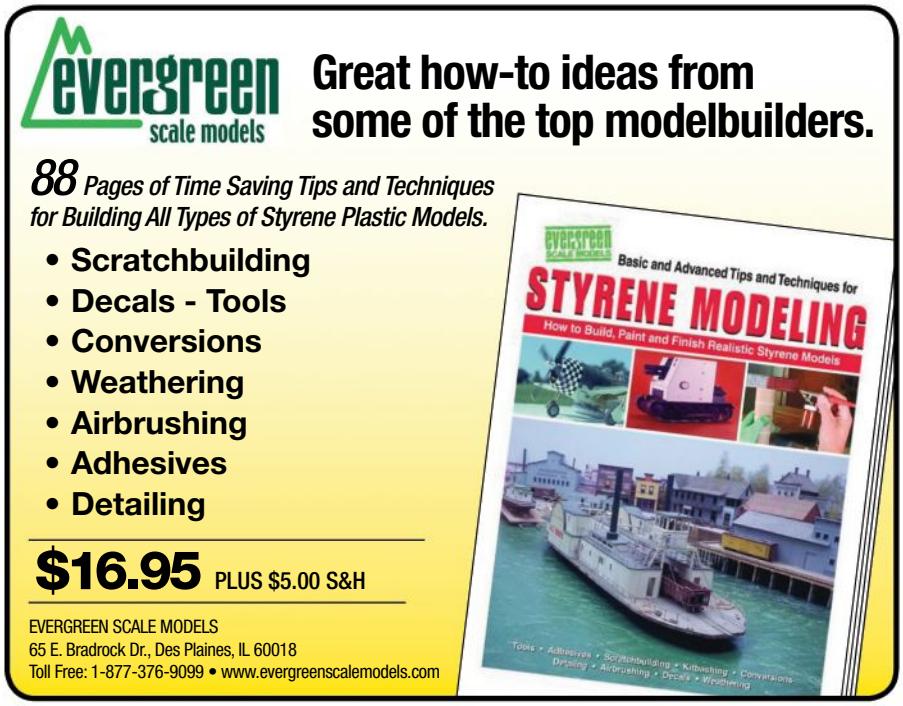
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Scale Talk

Your voice in *FSM*

Not an expert or novice

In the November 2013 *FSM*, Tony Proctor talked about his scale modeling experiences ("An average modeler," Page 8). I too am an average modeler — my results would never be acceptable for museums.

When I settled down in the '80s, I began modeling in earnest. I joined a modeling group, entered contests, and soon learned that I was not an expert, but not a novice either. Based on the comments I get from my modeling group, my skills have improved. Modeling relaxes me, even though I tend to seek out challenges like vacuum-formed kits and resin conversions.

I'm awed at the lengths some hobbyists go to produce perfect builds. However, I've seen modelers lose their tempers after failing to get top prizes — even destroying their model at the contest. To me, having a temper tantrum destroys the joy that a hobby brings.

- Kenneth W. Lamury
Wichita, Kan.

Another average modeler

I agree with Tony Proctor's admiration of other modeler's attention to detail, research, and photoetched-metal and resin additions to their award-winning models, but this is also precisely the reason I quit building scale models.

Back when I was building, I too considered myself an average modeler. After attending a number of contests, I realized that unless I invested the same amount of time, research, and cash that the winning modelers invested in their builds, my efforts would always look like those of a beginning modeler by comparison.

I still enjoy looking at the fantastic models on display at model contests, but it is exactly those models and their aftermarket add-ons, building techniques, and extreme attention to detail (researching the correct firing order for the engine on a 1/48 scale P-47!) that prevent me from building a model, even for enjoyment.

- Dave Bockhorn
Henderson, Nev.

Back to school

Matthew Usher's November 2013 Editor's Page struck a chord with me.

I'm originally from South Africa; many of my models depict South African Air Force aircraft flown during World War II. I have acquired several books on the SAAF and its aircraft. Not only do I refer to them while building, but I also enjoy reading them for pleasure. History was not my favorite subject in school, but this material definitely keeps my interest.

I've recently become interested in radio control and have started building a 1/24 scale Vosper MTB. I've had to do a great deal of scratchbuilding, requiring me to delve into several tomes for information. Half the fun is definitely the research!

- Anthony Burt
Glenmont, N.Y.

Regarding research

I believe research is a vital tool if a modeler wants to build a kit as accurately as possible. Of course, one cannot model every nut, bolt, and rivet. I find Squadron's "Walk Around" series quite helpful, along with various Internet resources. I choose not to buy expensive books, preferring to purchase the best kit on the market and add aftermarket parts and scratchbuilding if necessary. Modeling has its limitations. Make it enjoyable.

- John C. Backenstross
Fayetteville, N.Y.

Representation, not duplication

I think Matthew Usher's "Back to school" Editor's Page and Tony Proctor's "An average modeler" letter (November 2013, Page 8) both describe me pretty well.

I've been reading about airplanes and building plastic models for more than 50 years! As a docent at the Smithsonian National Air and Space Museum, I'm around planes a lot. I often read the histories that come with the kits to check their accuracy. I'm also on the prowl for new tidbits that I might be able to add to my tours at the museum. But checking out every little detail for each project is not my way.

I build models straight from the box. The pleasure of modeling, for me, comes from seeing the finished model on my shelf and being able to say, "I built that."

I am always amazed at the attention to detail *FSM* authors display with their models. The breadth and depth of available aftermarket parts is phenomenal indeed, but the quality of the kits today so surpasses what I built when I was 12 that it is sufficient for my tastes. For me, modeling has always been representation, not duplication.

Nevertheless, I enjoy reading about what others do and present in *FSM*. It keeps me interested and provides tips on things that I would like to learn to do better.

- Ray Hain
Wilmington, Del.

IN THE NEXT ISSUE: AIRBRUSHING WITH THE EXPERTS

Thinking about getting into — or getting better at — airbrushing? Need answers to your questions? Here's the lowdown on everything: Single- or double-action? Siphon or gravity feed? Air supply? How much pressure? You'll get answers to these questions as well as a photo gallery of great models and airbrushing tips from their builders.

Let us know what you think!

Comments, suggestions, corrections, and additional views on *FSM* articles are welcome. E-mail your thoughts to editor@FineScale.com, or visit FineScale.com and click on "Contribute to *FSM*." You can also mail typed or handwritten letters to the address on Page 6. Clearly mark "To the Editor" on the envelope. Please limit your comments to no more than 300 words and include your name and location.

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Scale Talk

Research presents possibilities

I was never a "I can't wait till school starts" kind of student. However, one thing I did enjoy was reading about World War I and II and anything to do with airplanes.

I spend a lot of time researching my airplane models. It helps me be true to the subject and opens numerous possibilities for conversions, upgrades, and challenges.

- Jeff Stobbe
Edmonton, Alberta, Canada

Bossert's USS *Benfold* a hit

FineScale Modeler has always provided great ship model articles — and, finally, you've done one on an *Arleigh Burke*-class guided-missile destroyer in 1/350 scale (December 2013, Page 46). Joseph Bossert did a great job on the model and gave me a few more ideas on how to make mine better.

My hobby desk looks like a miniature shipyard: I'm converting Panda's USS *Cole* to the USS *Mitscher* (DDG-57), on which I served as a commissioning crew member, and Dragon's USS *Arleigh Burke* (DDG-51) is in the process of becoming the USS *McFaul* (DDG-74) for a commanding officer I supported on that ship. Several other DDGs from Dragon, Gallery, and Trumpeter all await construction in my stash.

- Lt. Cmdr. William "Skip" Paetz, U.S. Navy (Ret.)
Norfolk, Virginia

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2013 IPMS/USA National Convention
Hundreds of modelers brought their creations to Loveland, Colo., in August 2013. Editors Matthew Usher and Aaron Skinner took so many pictures of models that we couldn't fit them all into a single issue!

Desktop wallpaper
Download an image of associate editor Aaron Skinner's Pegasus Hobbies 1/32 scale "Terminator 2: Judgment Day" aerial hunter-killer.

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Video issue previews
FSM Editor Matthew Usher highlights what's inside the current and past issues.

New Product Rundown
Editorial assistant Monica Freitag and associate editor Aaron Skinner pick the hottest scale-model hobby releases and show you why they rock.

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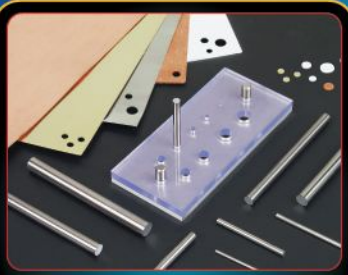

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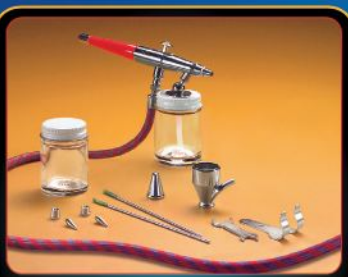

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Newcomer goes big on small but seminal tank

At 16½' long and weighing just 7 tons, the Renault FT is a small vehicle. But its place as the mother of all tanks is difficult to ignore. Designed to meet a 1916 French army request for a light tank, the FT, better known as the FT-17, mounted its main armament in a fully rotating turret, a novelty for the time. Almost every gun tank since then, large or small, has done the same.

This seminal vehicle has been largely ignored by mainstream plastic kit makers — until now. After this long a drought, fans of World War I armor can look forward to three kits, including Takom's 1/16 scale magnum opus (kit No. 1001).

Wrapped in a box with a design that owes a lot to Tamiya — white background, nice painting of the subject, bullet-point list of features — the kit has more than 250 parts in a surprising terra cotta-colored plastic. Takom has painted the photoetched-metal parts in the same red-brown shade that I can only guess is designed to look like primer. The kit provides individual-link, workable tracks in dark gray plastic.

The model features a complete interior, including the engine, transmission, radiator, fuel tank, driver's position with seat and controls, fighting compartment with ammo racks, and turret.

The kit replicates the WWI version with a Girod turret mounting the 37mm Puteaux cannon. The weapon's breech is provided as well. All of the hatches can be posed open, so much of the interior work will be visible.

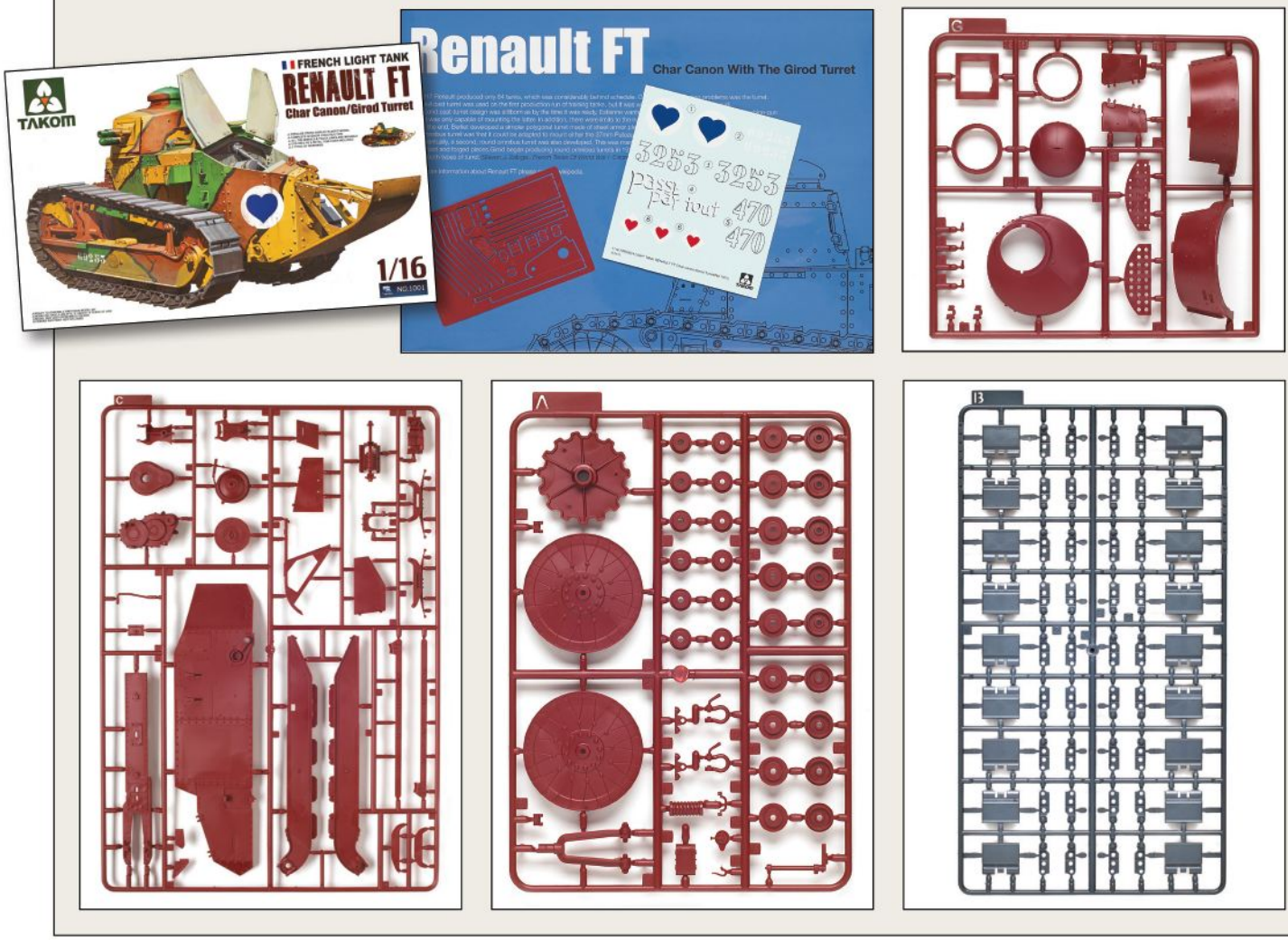
The FT's running gear is front and center on the tank, and the kit does a good job of replicating the complexity while being relatively easy to build.

In 1/16 scale, the diminutive FT will still be only slightly longer than 12", so you won't need to build an extension on your hobby room to display it.

Color callouts in the construction steps and camouflage diagrams reference Tamiya acrylic paints.

Decals provide markings for three colorful FTs: one French and one American tank from 1918, and a Polish vehicle from 1920.

Distributed in the United States by Pacific Coast Models, 707-538-4850, www.pacmodels.com, the Renault FT costs $109.95.



Easy-to-use-and-store pastels in common weathering shades

PanPastel makes artist's pastels that come in easy-to-store plastic pans. Now it is making three weathering kits especially for modelers.

The Rust & Earth kit features seven brown, tan, and red shades. The Greys, Grime & Soot set consists of seven colors ranging from black to white that should be great for exhaust stains, dirt streaks, ash, dust, and oil spills. The Scenery kit has seven greens, blues, yellows, and reds. Each set includes a set of Sofft foam applicators and knife heads for easy application.

The packages advertise easy weathering in seconds, so I gave it a whirl on a Panzer III.

The pastels come in cakes held in round plastic pans. Rubbing lightly with a foam applicator released a little of the pigment. It turns into a light powder that can be used like powdered pigments or pastel chalks. I liked the applicators, but found I had more control with a paint brush. In about 15 minutes, I had the Panzer looking dirty and used. There was very little mess and zero waste. Each pan will cover a lot of models, and the colors can be mixed for more effects.

The sets come packaged in a plastic palette, but the pans can be removed and screwed together in stacks for storage.

For more information, visit www.modelingcolors.com. The sets cost $49.99 each, while individual colors are $6.99.

Trumpeter releases a small-scale Condor

Originally designed as an airliner, the Focke-Wulf 200 was repurposed by the Luftwaffe at the beginning of World War II. With a stronger fuselage, longer wings, extra fuel, and bombs or torpedoes, the Condor became, in the words of Winston Churchill, the "Scourge of the Atlantic." The aircraft were used for reconnaissance, looking for Allied convoys and directing U-boats to the attack. Later it became a transport, especially on the Eastern Front.

For years, the only 1/72 scale injection-molded plastic kit of the Condor was a venerable Revell model. In 2006, Revell Germany released an all-new tool kit of the big airplane. Now Trumpeter has scaled down its 1/48 scale offering.

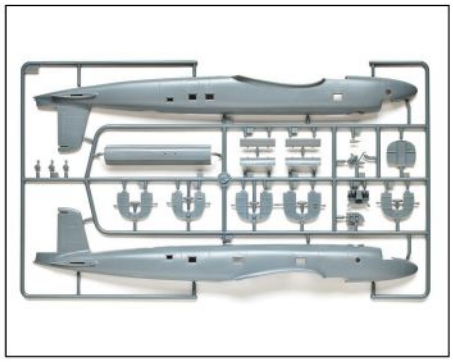
The kit (No. 01637) represents the C-3 variant powered by Bramo 323R-2 engines. Despite the model's size — 12" long and 18" wingspan — the kit is not overflowing with parts. It includes a full interior complete with cockpit, fuel tanks, six bulkheads, and the dorsal turret and gun positions. Most of this won't be visible unless you modify the kit to open the door.

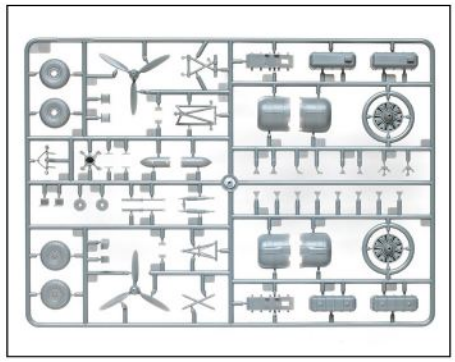
The control surfaces are separate, including the flaps, so it should be easy to pose them deflected.

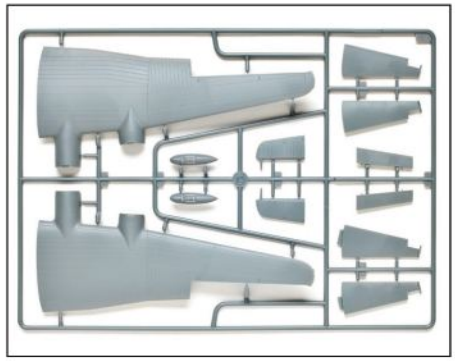
The engines are simplifed; there's no option to open the cowls, so the detail is just what's visible through the narrow openings. The landing-gear bays are relatively featureless, but the distinctive gear looks great.

Decals provide marking for two Fw 200 C-3s: one in service with KG 40 featuring the squadron's famous ringed-globe emblem, the other a captured aircraft in Soviet service. Both are shown in RLM 70/71 splinter camouflage, but most maritime patrol aircraft wore RLM 72/73 colors. Check your references.

Distributed in the United States by Squadron, the Condor costs $59.99.







New Products

Compiled by Monica Freitag

AIRCRAFT

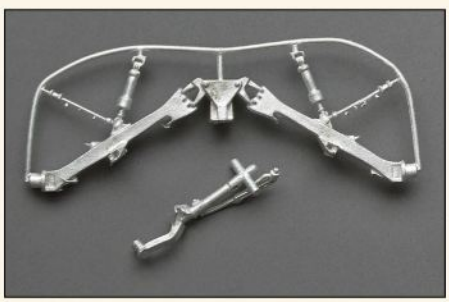
1/18 DETAIL SETS

SBD-3/4 Dauntless landing gear (for Merit), No. 18001, $18.95. From Scale Aircraft Conversions.

1/32 SCALE KITS

Fokker E.IV, No. 32029, $69; **Fokker E.1 Early,** No. 32021, $69. Both from Wingnut Wings.

1/32 DETAIL SETS



F-104 Starfighter landing gear (for Hasegawa), No. 32077, $17.95; **Messerschmitt Bf 109 landing gear (for Revell Garmany),** No. 32078, $16.95. Both from Scale Aircraft Conversions.

1/32 DECAL SETS

Air Wings All Stars Super Hornets Part One, No. 32-001, $19.99. From Furball Aero-Design.

P-51D Mustang Part 1, No. LL-32-014, $16.95. From Life-Like, available from Pacific Coast Models.

1/48 SCALE KITS

Gloster Meteor Mk.1 fighter jet, No. AMT825/12, $21.99. From AMT, available from Round 2.

Messerschmitt Me262A-1a, No. 80369, $31.99. From HobbyBoss, available from Squadron Products.

Northrop YF-23 USAF, No. 81722, $69.99. Look for a detailed review in an upcoming issue of *FSM*. From HobbyBoss, available from Squadron Products.

Gloster Javelin FAW.9/9R, No. A12007, $69.99. 3 finish options, new tooling. Look for a detailed review in an upcoming issue of *FSM*. From Airfix.

HH-34J USAF combat rescue, No. 85-5327, $55.98. From Gallery Models, available from Model Rectifier Corp.

Skyraider AD-5 (A-1E), No. 85-5327, $28.99. From Revell.

1/48 DETAIL SETS

Alpha jet landing gear (for Kinetic), No. 48241, $14.95; **Mi-2 Hoplite landing gear (for Aero Plast),** No. 48242, $14.95 each. From Scale Aircraft Conversions.

1/48 DECAL SETS

P-47D Thunderbolt Part 5, No. LL-48-014, $16.95. From Life-Like, available from Pacific Coast Models.

Bravo MiG Killers Part Two, No. 48-018, $19.99. F-4B Phantoms of the Vietnam Conflict. From Furball Aero-Design.

Air Wings All-Stars Phantoms Part Two, No. 48-019, $19.99; **Killer Whales Part One,** No. 48-022, $19.99. A 3D-1/A3D-2/A-3B/RA-3B. Both from Furball Aero-Design.

1/72 SCALE KITS

FW 200C-3 Condor, No. 01637, $59.95. From Trumpeter, available from Stevens International.

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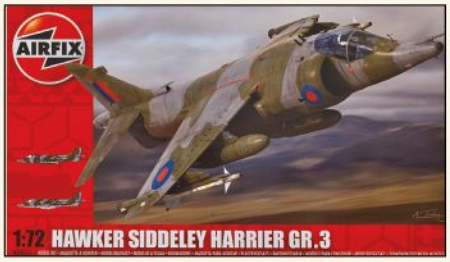

Hawker Sidley Harrier GR.3, No. A04055, $17.99. New tooling, 2 finish options. From Airfix.

Gloster J-8A/Gladiator Mk.II, No. A02063, $9.49. Look for a detailed review in an upcoming issue of *FSM*. New tooling, 2 finish options. From Airfix.

F-35A Lightning II, No. 1331, $39. Look for a detailed review in an upcoming issue of *FSM*. From Italeri, available from Model Rectifier Corporation.

1/72 DETAIL SETS

Boeing 707, C-135 landing gear (for Heller), No. 72072, $18.95. From Scale Aircraft Conversions.

Hawker Typhoon landing gear (2 sets for Airfix), No. 72073, $12.95. From Scale Aircraft Conversions.

F-101B Voodoo landing gear (for Revell), No. 72074, $12.95. From Scale Aircraft Conversions.

1/72 DECAL SETS

B-17F/G Part 1 8th Air Force, No. LL-72-014, $16.95. From Life-Like, available from Pacific Coast Models.

ARMOR

1/16 SCALE KITS

Renault FT French light tank, No. 1001, $109.95. Look for a detailed review in an upcoming issue of *FSM*. From Takom, available from Pacific Coast Models, Inc.

Manufacturer Directory

Aero Research Co.
6468 Valley Wood Dr.
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www.AeroResearchCDs.com

Airfix
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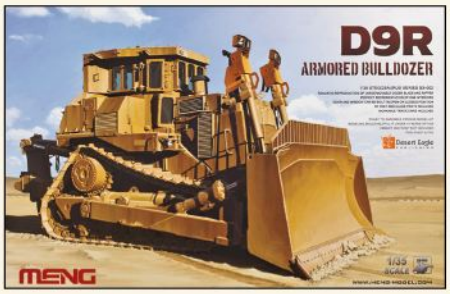
New Products

1/35 SCALE KITS

4.7cm PaK(t) Sfl auf Fgst PzKpfw 35R 731(f), No. 83807, $54.99. From HobbyBoss, from Squadron Products.

French FT-17 light tank (cast turret), No. TS8, $79.95. Look for a detailed review in an upcoming issue of *FSM*. From Meng, available from Stevens International.



D9R Doobi IDF armored bulldozer, No. SS2, $89.95. Look for a detailed review in an upcoming issue of *FSM*. From Meng, available from Stevens International.

SAS ¼-ton 4x4 truck ETO, No. 6725, $36.95. Smart Kit. From Dragon, available from Dragon Models USA Inc.

PzKpfw III (5cm) (T) Ausf G, No. 6773, $54.95. 1939-1945 series. Smart Kit. From Dragon, available from Dragon Models USA Inc.

Flakpanzer IV Ausf G with Zimmerit, No. 6746, $59.95. 1939-1945 series. From Dragon, available from Dragon Models USA Inc.

Russian T-90A main battle tank (cast turret), No. 5560, $72.95. 1300 parts including multi-slide molded turret, lower hull, individual track links, photoetch metal details. From Trumpeter, available from Stevens International.

PzKpfw III (5cm) Ausf G, No. 6773, $54.95. 1939-1945 series, Smart Kit. From Dragon, available from Dragon Models USA Inc.

PzKpfw IV L.70(A) Final production, No. 6784, $59.99. 1939-1945 series Smart Kit. From Dragon, available from Dragon Models USA Inc.

1/72 SCALE KITS

Japan ground self-defense force 3½-ton fuel tank vehicle, No. 7952, $59.95. Military Model kit series. From Aoshima, available from Dragon Models USA Inc.

Berge-Panther mit Pz IV Turm, No. 7508, $24.50. Armor Pro. From Dragon, available from Dragon Models USA Inc.

Japan ground self defense force 31/2-ton fuel tank vehicle for aviation, No. 7945, $24.95. Military Model kit series. From Aoshima, available from Dragon Models USA Inc.

5.5cm Zwilling Flakpanzer, No. 7488, $22.95. Armor Pro. From Dragon, available from Dragon Models USA Inc.

SHIPS

1/350 SCALE KITS

***I-365* Japanese submarine,** No. 005682, $46.95. From Aoshima, available from Dragon Models USA Inc.

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Russian Navy *Akula*- class attack submarine, No. 83525, $26.99. From HobbyBoss, available from Squadron Products.

1/500 SCALE KITS

USS *Shangri-La* (angled-deck carrier), No. 85-7819, $23.99. Renwal Blueprint Models, available from Revell.

1/700 SCALE KITS

USS *Long Beach CGN-9* 1980, No. 7135, $36.95. Smart Kit. Modern Sea Power Series. From cyber-hobby.com, available from Dragon Models USA Inc.

Japanese seaplane tender *Chitose,* No. 001233, $28.95. Water Line Series. From Aoshima, available from Dragon Models USA Inc.

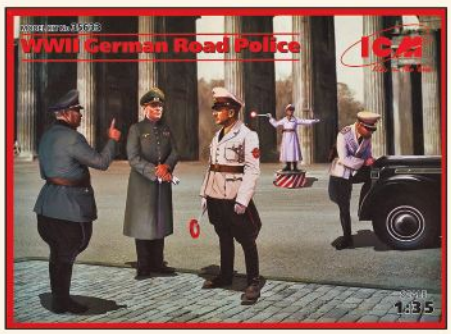
MILITARY FIGURES

1/32 SCALE KITS

Max Immelman, No. 32021; **Manfred von Richthofen seated on fuselage,** No. 32009, $22.50 each. From Model Cellar Productions.

1/35 SCALE KITS

SAS vehicle crews North Africa 1942, No. 6682, $19.95. From Dragon, available from Dragon Models USA Inc.
British paratroopers and bicycles set, No. 35333, $18.50. Military Miniatures. From Tamiya America Inc.
US scooter - airborne, No. 351, $21.20. Resin and photoetch; **US airborne scooter with reel,** No. 438, $35.20. 35 resin parts, photoetch and decals. Both from Plus Model.



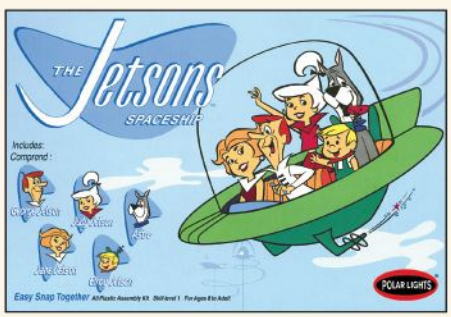
WWII German road police, No. 35633, $15.99. From ICM, availble from Squadron Products.

1/48 SCALE KITS

US scooter with crew, No. AL4027, $27.90; **US scooter fire fighter,** No. AL4028, $21.20. AeroLine. Resin and photoetch. From Plus Model.

SCIENCE FICTION

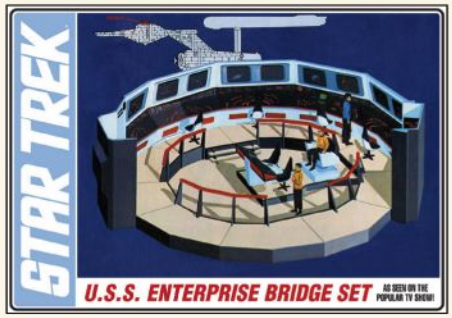
1/25 SCALE KITS



Jetson spacecraft, No. POL913, $29.95. Snap-together model. From Polar Lights, available from Round 2.

1/32 SCALE KITS

Battlestar Galactica Colonial Viper, painted and assembled display model, No. 940, $29.99. From Moebius Models.
Viper Mark VII from Battlestar Galactica painted and assembled display model, No. 2916, $59.99. From Moebius Models.



Star Trek bridge set, No. AMT808, $24.99. Parts to build six figures included, additional wall sections. From AMT, available from Round 2.

1/1000 SCALE KITS

Star Trek NX-01, No. POL898, $25.99. Includes options to build either standard NX-01 or NX-01 refit version of the *Enterprise*. From Polar Lights, available from Round 2.

1/4105 SCALE

Battlestar *Galactica,* painted and assembled display model, No. 2915, $84.99. From Moebius Models.

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REAL SPACE

1/100 SCALE KITS

Titan rocket, No. MPC790/06, $35.95. See through nose cone, includes twin booster rockets. From MPC, available from Round 2.

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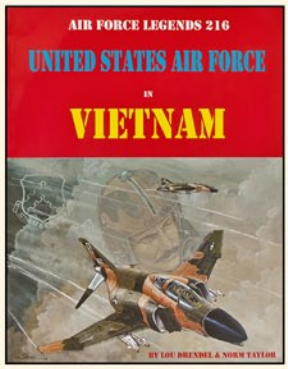
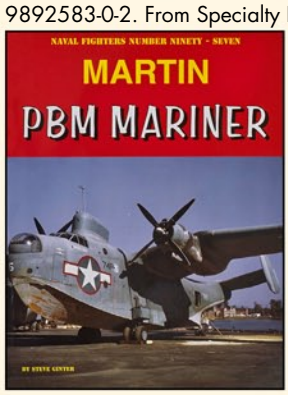
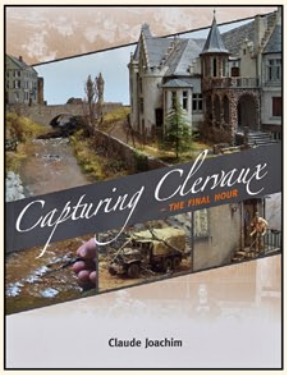


Air Force Legends 216: United States Air Force in Vietnam, $39.95, by Lou Drendel and Norm Taylor, soft cover, 160 pages, few color photos, mostly black-and-white photos, ISBN: 978-0-9892583-0-2. From Specialty Press.

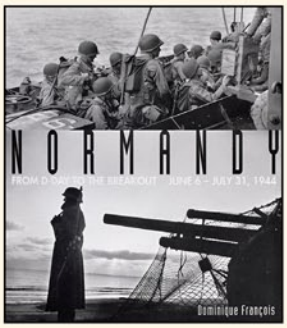


Martin PBM Mariner, $52.95, by Steve Ginter, soft cover, 257 pages, all black-and-white photos, ISBN: 978-0-9892583-2-6. From Specialty Press.

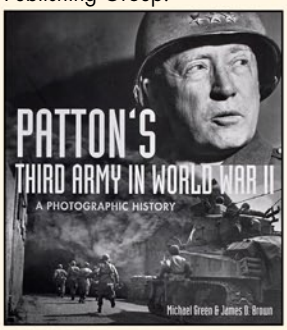
Early US Jet Fighters (Proposals, Projects and Prototypes), $49.95, by Tony Buttler, hard cover, 176 pages, over 350 black-and-white photos, ISBN: 978-1-902109-28-2. From Specialty Press.



Capturing Clervaux - The Final Hour, $42, by Claude Joachim, soft cover, 145 pages, all color photos, ISBN: 978-99959-0-036-6. From Claude Joachim.



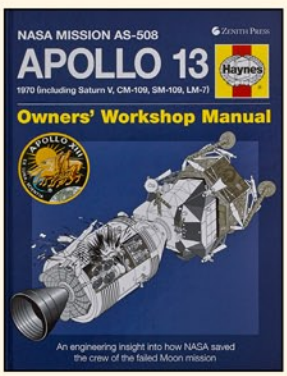
Normandy - From D-Day to the Breakout: June 6 - July 31, 1944, $24.99, by Dominique Francois, soft cover, 300 pages, 100 color photos, 400 black-and-white photos, ISBN: 978-07603-45-5-80. From Quayside Publishing Group.



Patton's Third Army in World War II - A photographic history, $24.99, by Michael Green and James D. Brown, soft cover, 288 pages, 48 color photos; 13 maps, 403 black-and-white photos, ISBN: 978-07603-45-5-73. From Quayside Publishing Group.

Frigate HNLMS Jacob van Heemskerck, $21, by Rindert van Zinderen Bakker, soft cover, 48 pages, all color photos, ISBN: 978-07603-45-5-73. From Lanasta.

Fokker C.X., $19.25, by Edwin Hoogschagen, soft cover, 48 pages, all color photos, ISBN: 978-90-8616-165-2. From Lanasta.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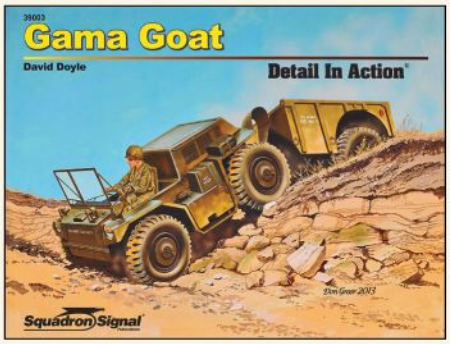
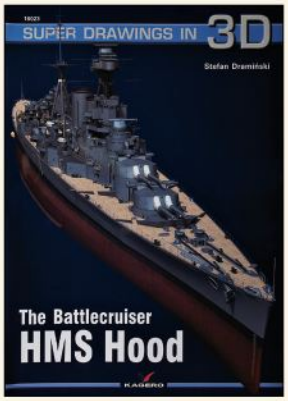
Apollo 13 - Owner's Workshop Manual, $28, by David Baker, hard cover, 192 pages, 250 color photos, 50 black-and-white photos, ISBN: 978-07603-46-1-98. From Quayside Publishing Group.



Gama Goat Detail in Action, $18.95, by David Doyle, soft cover, 80 pages, mostly color photos, ISBN: 978-0-89747-736-9. From Squadron/Signal Publications.

U.S. MRAPs in Action, $18.95, by John Adams-Graf, soft cover, 80 pages, all color photos, ISBN: 978-0-89747-738-3. From Squadron/Signal Publications.

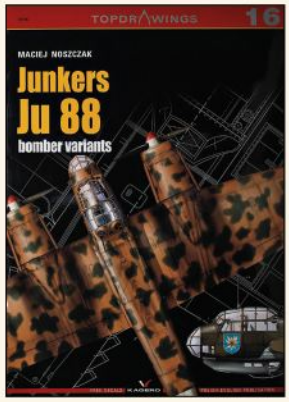
JG 26 "Schlageter," $19.95, by Mrek J. Murawski, soft cover, 28 pages, 4 painting schemes, 40 archive photos, ISBN: 978-83-62878-81-9. From Kagero, available from Casemate Publishers.



The Battlecruiser HMS Hood, $22.95, by Stefan Draminski, soft cover, 72 pages, 134 graphics, scale drawings, color photos, black-and-white photos, ISBN: 978-83-62878-78-9 From Kagero, available from Casemate Publishers.

Scale Model Handbook: Figure Modelling 8, $19, by ISSN: 2241-1054, soft cover, 50 pages, all color photos. From Mr. Black Publications.

General Dynamics F-111 Aardvark, $18.95, by Peter Davies, soft cover, 64 pages, all color photos color photos, ISBN: 978-1-78096-611-3. From Osprey Publishing.



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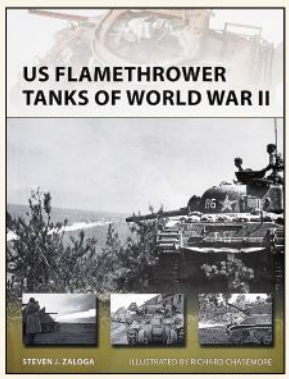

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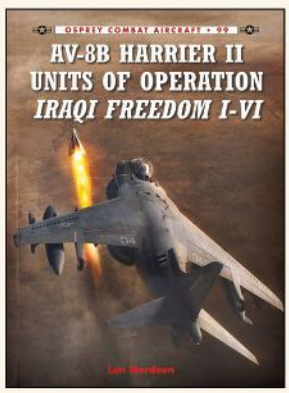

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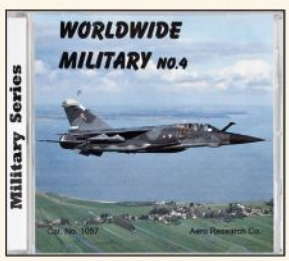

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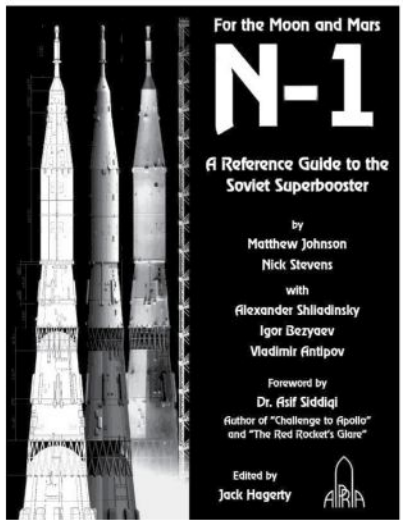

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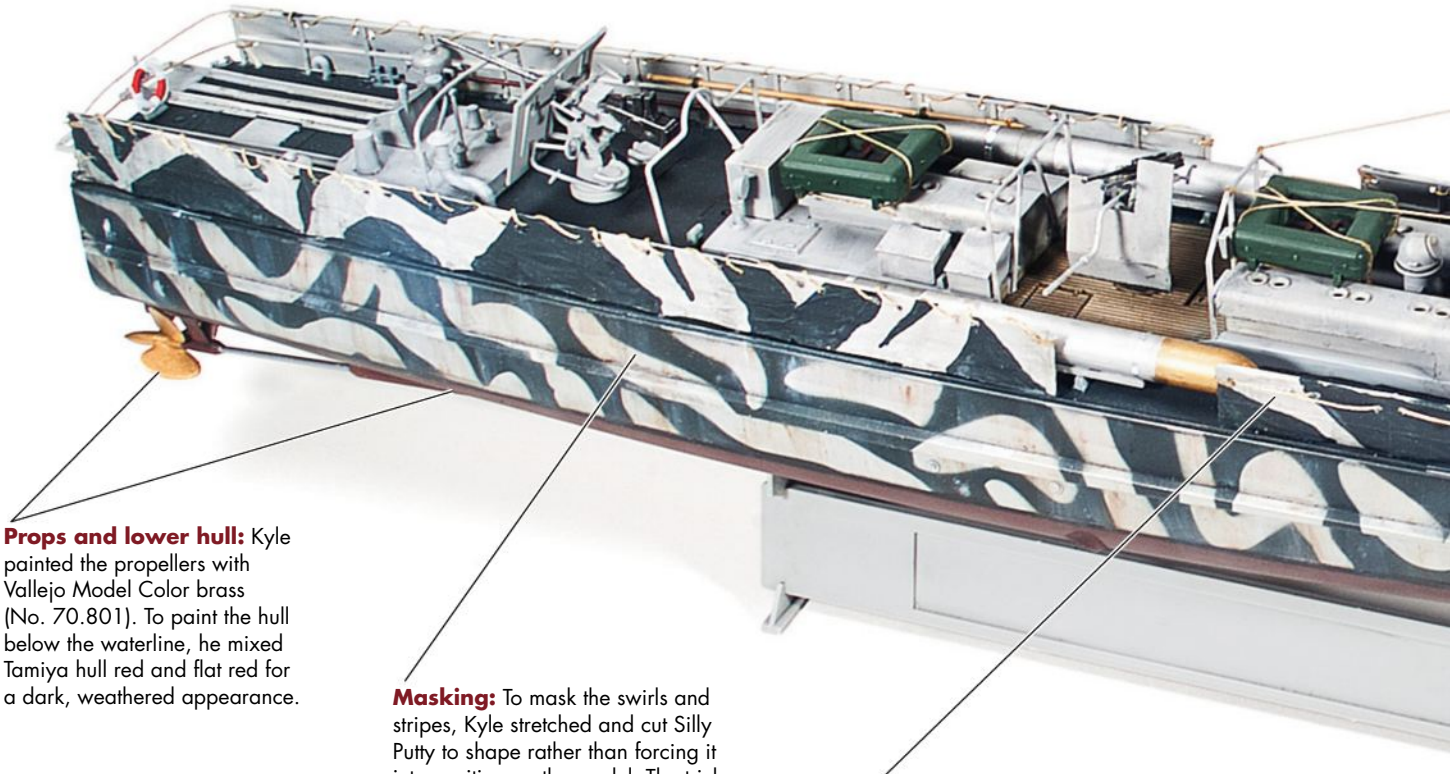
Silly Putty for a snaz

Unique camouflage sets this German torpedo boat apart • BY AARON SKINNER



Props and lower hull: Kyle painted the propellers with Vallejo Model Color brass (No. 70.801). To paint the hull below the waterline, he mixed Tamiya hull red and flat red for a dark, weathered appearance.

Masking: To mask the swirls and stripes, Kyle stretched and cut Silly Putty to shape rather than forcing it into position on the model. The trick to achieving a hard edge using Silly Putty is to ensure the putty sits flush with the surface, he says.

Spray shields: Kyle's only addition to the kit: Spray shields made by soaking tissue in thin white glue and laying it over the railings.

Inspired by Alfonso Berlana's *S-100*-class boat, featured in the February 2006 *FSM*, Kyle Uy wanted to do one in the same eye-catching camouflage.

He built Revell Germany's 1/72 scale *schnellboot* pretty much out of the box. The only things he added were the canvas spray deflectors on the rails, which he made with tissue soaked in thin white glue. He laid the wet paper over the railings; as the tissue dried, it shrank and took on the shape of the railings.

Set to paint, Kyle readied his airbrushes. His go-to tool for most work is a double-action brush. "It provides a consistent spray that is easy to control, excellent for general airbrushing," he says. For fine detail work, he turns to a more refined double-action with an ultrafine tip that allows for easy handling and pencil-line shading.

He powers both with an Iwata Sprint Jet compressor fitted with regulator and moisture trap.

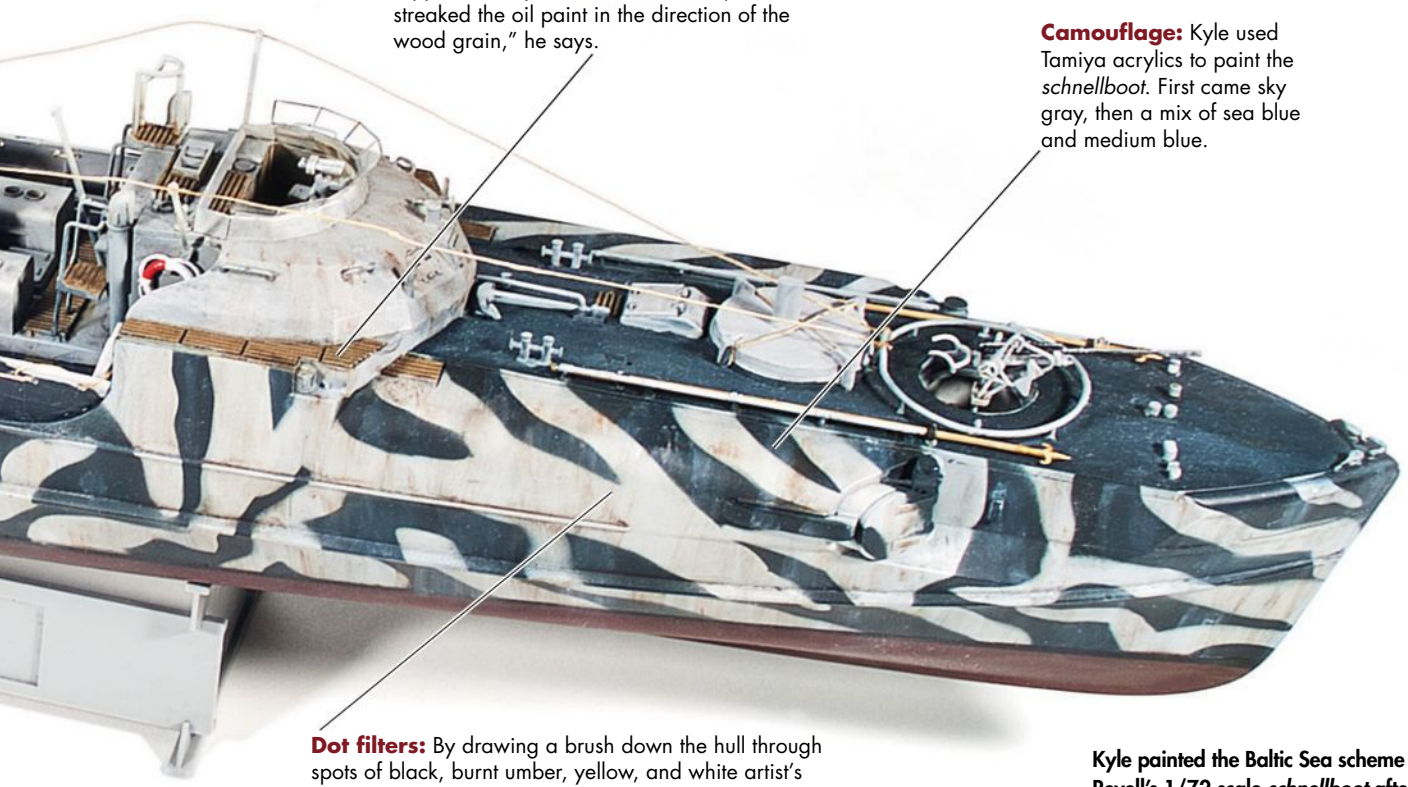
After base-coating the model with Tamiya Fine Surface Primer, Kyle pre-shaded details with Tamiya flat black acrylic (XF-1) using the detail brush at 15 psi.

Then he sprayed Tamiya sky gray (XF-19) overall. The lower hull received a coat of antifouling red — a mix of 4 parts Tamiya hull red (XF-9) and 1 part flat red (XF-7). Kyle masked the camouflage swatches with Silly Putty stretched and cut in random shapes, and then placed on the model.

An airbrushed mix of 10 parts Tamiya sea blue (XF-17) and 1 part medium blue (XF-18) finished the camouflage. He hand-painted details, including the wood-plank deck, which received a base coat of Vallejo Panzer Aces old wood (No. 310). Artist's oils dabbed on and wiped off produced a wood grain.

After sealing the finish with Pledge Future floor polish, Kyle weathered the boat. He started with a wash of burnt umber and black Winsor & Newton artist's oils thinned with mineral spirits to a slightly sludgy consistency. An hour later, he wiped away the excess with a cotton swab dampened with just a touch of mineral spirits.

zy schnellboot



Wooden decks: After a base coat of Vallejo Panzer Aces old wood, Kyle dabbed the planks with several colors of Winsor & Newton artist's oils. "Using a stiff brush, I (applied) a tiny amount of mineral spirits and streaked the oil paint in the direction of the wood grain," he says.

Camouflage: Kyle used Tamiya acrylics to paint the *schnellboot*. First came sky gray, then a mix of sea blue and medium blue.

Dot filters: By drawing a brush down the hull through spots of black, burnt umber, yellow, and white artist's oils, Kyle blended the camouflage colors. It also gives the boat a rain-streaked appearance.

Kyle painted the Baltic Sea scheme on Revell's 1/72 scale *schnellboot* after seeing a similarly camouflaged model in *FSM*. He used Silly Putty to mask the stripes.

He dabbed dots of black, burnt umber, yellow, and white artist's oils on the sides of the boat and drew the dots down the hull with a stiff brush to mimic rain-streaking and vary the colors.

An application of dry pastels highlighted raised details and simulated wear and tear.

Kyle confesses that he painted the model twice: "I was unhappy with the results of the first application of the camouflage masking. I resprayed the model and tried a different pattern for the camouflage.

"Overall, this was a great learning experience, using different paints to achieve what I wanted in the model. The oil washes and the pastel pigments provide a great contrast from the acrylic base paint." **FSM**

Meet Kyle Uy

KYLE, 24, BUILT his first model five years ago. It was a kit he picked up in a craft store clearance bin: Tamiya's 1/700 scale USS *Iowa*, a ship he recognized from a computer game. He didn't know much about modeling then, but that build hooked him. "I love to build ships, mostly 1/700 scale," he says. "I build aircraft and armor as well, but I always come back to ships." A registered nurse, Kyle lives in Niles, Ill., with his aunt and uncle and is a member of the IPMS Chicago Sprue Stretchers. "Most of what I know I owe to the awesome members of the club, who have been my mentors and friends," he says. "I probably would not still be making models if I was not with the Sprue Stretchers."

Build a better TOMCAT

Academy's F-14 backdated to 1985 to intercept *Achille Lauro* hijackers

BY DARREN ROBERTS

Time sure slips away — I was a bit taken aback when I realized that my very first article in *FSM* was more than 15 years ago! I was inspired to revisit the topic of that first feature, an F-14 Tomcat. Browsing *FineScale Modeler*'s "25-year Collection DVD," in the October 1986 issue I found Paul Boyer's shadowbox depiction of F-14s intercepting an EgyptAir 737 carrying the *Achille Lauro* hijackers. Two of the jets were from VF-103, which was the squadron I had modeled in my very first article. Perfect!

Academy's 1/48 scale kit was already in my stash, so I launched right into the project.

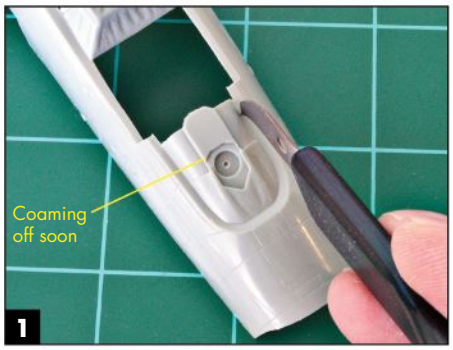
Cockpit and upper fuselage

The kit's "office" isn't bad, but I wanted to take it a little further. I opted for an Aries resin cockpit; its exquisite detail looks realistic after painting.

However, this transplant meant surgery. Both instrument panel coamings and rear decking had to be removed. I scored around the instrument coamings with a scribing tool, **1**, and when the scoring was deep enough I popped the plastic out and sanded the edges smooth. I did the same thing on the rear decking, but scored on the underside just to be safe, **2**. With that, the upper fuselage was ready to accept the resin cockpit, **3**.

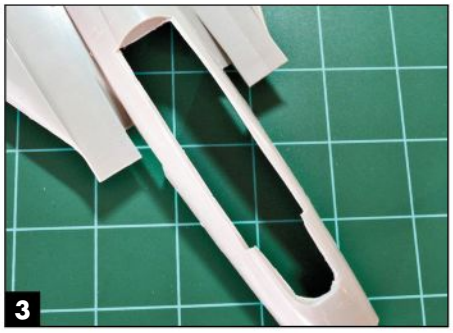
Since I was upping the detail, there were some other improvements to make before I closed up the fuselage. On the spine behind the canopy is a GPS antenna molded onto the plastic, **4**. This was an Academy upgrade to its original Tomcat molds; it

One day Darren realized 15 years had passed since his first article for *FSM*, "Fast FAC ground-attack Tomcat" (October 1998). To mark the occasion, he built — what else? — another F-14. This 1/48 scale Academy kit is modeled after one of the VF-103 "Sluggers" that intercepted the *Achille Lauro* hijackers in 1985.

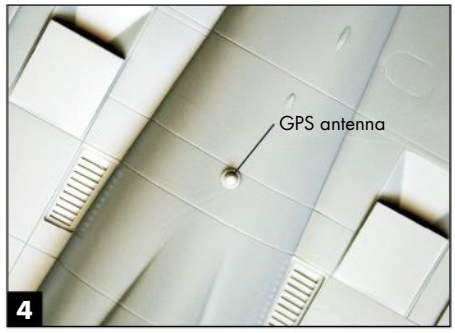


Darren repeatedly scribes the edges of the cockpit molding until the outlined plastic can be easily removed.

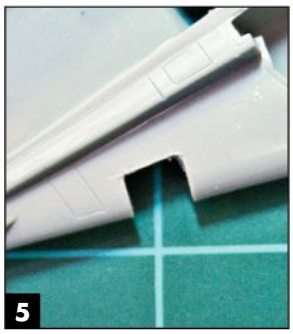
As a precaution against damaging surrounding areas, Darren scribes from the underside of the aft cockpit.



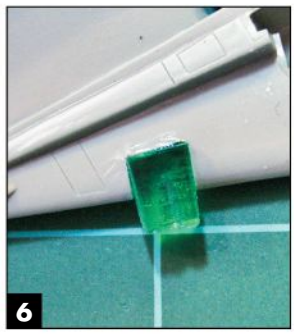
Once the unwanted plastic is removed, Darren smoothed the edges with a sanding stick.



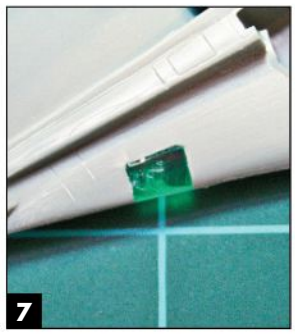
This GPS antenna doesn't belong in 1985 — Darren simply sanded it off.



A razor saw took out the molded features and made room for Darren's new navigation lights.



Darren got green plastic for the starboard light from a toothbrush handle …



… and ground, sanded, and polished it down.

should be removed for a 1985 F-14. A sanding stick is all you need.

This particular aircraft didn't have the ECM upgrade that is molded on the Academy kit, so I removed those blisters on the boat tail and the underside of the wing gloves with a razor saw, hobby knife, and sanding stick. On the boat tail, I also drilled out the fuel-dump pipe with a drill bit chucked in a pin vise.

It's difficult to get the right look for the Tomcat's red and green navigation lights on the aft fuselage. I use bits of colored toothbrush handles: I cut the plastic from both the upper and lower fuselage halves around the molded-in navigation lights, **5**. Then, I sawed off pieces of the toothbrush handles (red for the port side, green for the starboard) and super glued them in place; they were oversized to provide plenty of material to achieve a good fit, **6**. Using a motor tool, I carefully ground them down, **7**. Coarse sandpaper helped refine the shape, and progressively finer grits of sanding cloths produced a polished finish. I used the same technique for the wingtip navigation lights as well as the anti-collision lights on the tips of the tails.

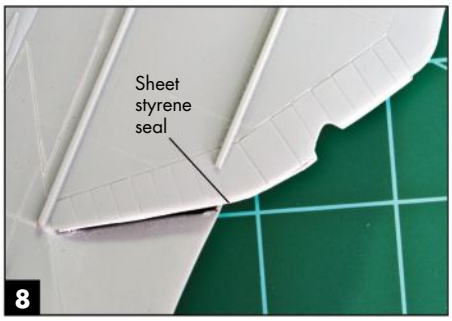
The last correction on the top fuselage half (for the moment) was to add the seal where the wings sweep. I cut thin plastic sheet stock to the approximate shape, glued it to the underside of the fuselage, and refined the shape with a sanding stick, **8**.

Lower fuselage

Turning my attention to the lower fuselage, I found the two air-conditioning vents between the intakes and the forward Sparrow missile bays lacked detail. Photoetched-metal replacements from Eduard would look more realistic.

I used my pin vise to drill a series of holes and make cutting out the area a bit easier, **9**, then a hobby knife to cut plastic from inside the edges, **10**. I didn't want a see-through view to the inside of the model, so I used thin sheet stock to make a box on the inside of the fuselage, **11**.

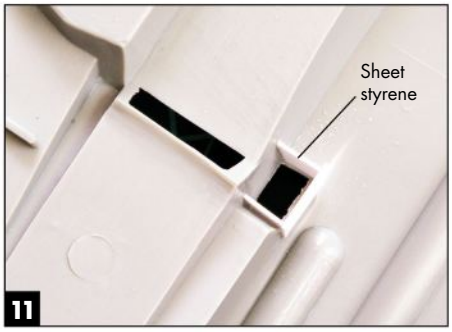
For interior detail, I glued a hub from a main wheel of a 1/100 scale A-4 Skyhawk to a piece of styrene that would be the "roof" of the enclosure, providing some detail to the vent's interior, **12**. I



Darren shaped sheet styrene to make a seal for the swinging wings.

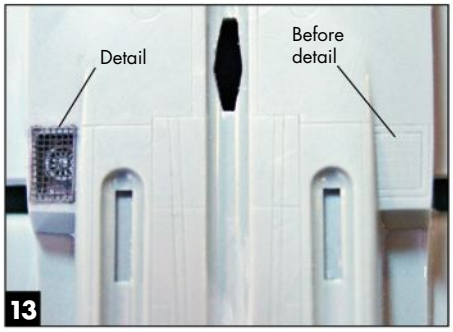
On the underside, Darren didn't think the air-conditioning vents looked so hot. So, he perforated the area he wanted to remove …

… to make it easier to cut out the plastic with a hobby knife.

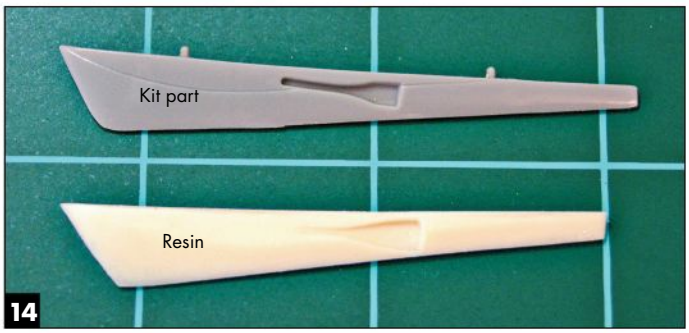


A sheet-styrene box inside the vent prevented a view of the empty interior.

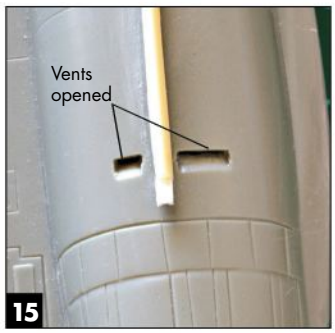
Gluing a wheel hub to the roof of the recess made it look like there is a fan in there.



Photoetched-metal mesh finishes and enhances the detail. Darren did the same on the other side.



In Darrel's opinion, the taffy-colored resin strake had a more accurate shape than the kit part.



Darren opened vents on either side of the ventral strakes.

Scraping with a hobby knife recessed a triangular area.

glued a photoetched-metal grille over the opening, **13**.

On the Academy kit, locator holes for the drop tanks are in the wrong place; their pylons should be at the center of the intake tunnel. I plugged the holes with styrene rod and sanded them smooth. I also opened up the Sparrow fin bays and used photoetched metal to detail the Sparrow wells.

At the aft end, I replaced molded ventral strakes with a resin set from Steel Beach Accessories, improving their shape, **14**. I added the tow points to the back of the strakes using pieces of styrene channel, and opened up the drain on the arresting hook housing with a drill bit. I hollowed out the vents on either side of both ventral strakes using a hobby knife, **15**.

Another correction was the pair of triangular inlets just behind the main landing gear on both engine nacelles. They're oddly shaped on the Academy kit, so I cut a triangular outline around the kit inlets and used a hobby knife to scrape away some of the plastic to create a recess, **16**. I cut thin sheet styrene to shape and glued it in the openings, **17**, then cut out the correct inlet shape in the inserts, **18**.

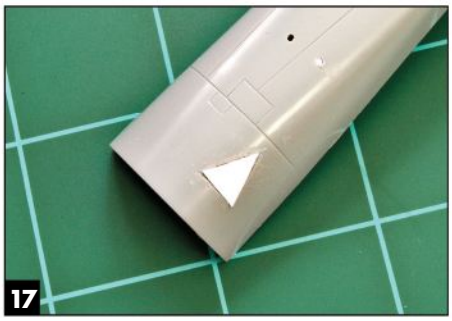
When these details were taken care of, I glued the fuselage halves together.

Nose job

Perhaps the Academy F-14's greatest flaw is its pudgy nose. Most of the time, I can let errors in a model's outline go, but the Tomcat is my favorite airplane. I needed to fix this.

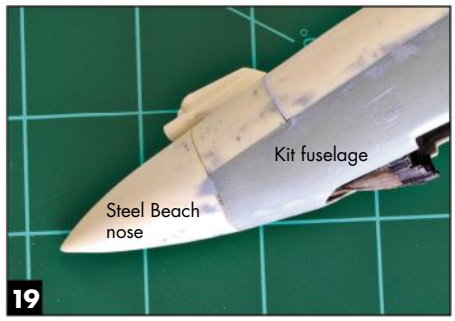
Steel Beach makes a resin nose replacement; it takes a bit of work to graft onto the plane, but it makes a world of difference. I also replaced the kit's Television Camera System (TCS) pod with another resin part from Steel Beach, **19**. The aircraft I was modeling had an "alpha probe" at the tip of the nose; I used a turned-brass probe from Hobbydecal, **20**. Much better than the kit part! Finally, I decided to rob a windscreen from a derelict Hasegawa kit; it looked better than the Academy piece and fit surprisingly well with just a bit of epoxy putty to blend it in. I finished this area off by adding the yaw string (tan thread) and the rain removal system (styrene rod), **21**.

On all the F-14s I've ever seen in pictures or in person, the horizontal stabilizers are rarely parallel with the ground. I always thought this gave the Tomcat some character while sitting on the ramp. To replicate this, I cut away the locating tab on each of the horizontal stabilizers and drilled a hole in the stabs, **22**, then attached a piece of styrene rod to help keep them in place, **23**. To



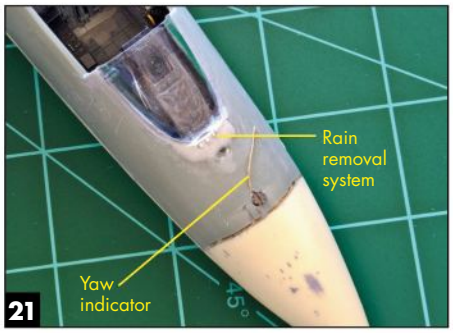
Sheet styrene gave Darren something to sculpt …

… and sculpting produced a more accurate look for this inlet.

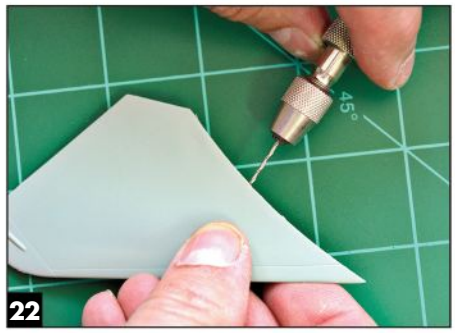


Fitting the resin nose produced a more accurate profile but required a lot of sanding to blend it into the kit part.

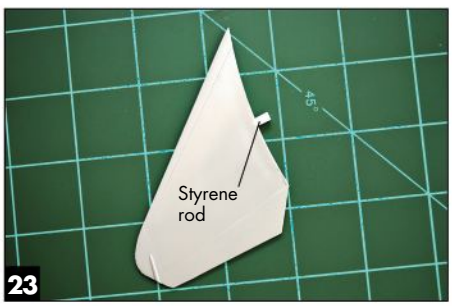
Darren installed a turned-metal pitot head at the very tip of the nose.



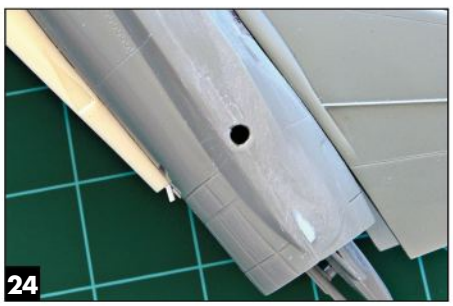
Short sections of styrene rod make up the rain removal system on the windscreen; a bit of thread replicates a yaw indicator.



Darren uses a pin vise to drill a locator hole for a styrene-rod mount on the horizontal stabilizer.



A styrene-rod mount makes it easier to pose the horizontal stabilizer — and makes it removable, too.



A corresponding hole in the fuselage accepts the styrene rod from the stabilizer.

To avoid having to mount the wings before closing the fuselage, Darren cut off the gears that link the two wings.

fill in the locating slot on the fuselage, I super glued the locating tab I had cut off of the stabilizer into the slot and sanded it smooth.

I drilled a new locating hole just behind the locating tab I had filled in, **24**, making sure it was the same size as the rod I had used on the stabilizer. This way I could push the stabilizer in place and friction would hold it — yet it would be movable. Measure twice so the two stabilizers match up.

Academy's kit features "working" wings; they actually swing back and forth. Instructions call for the wings to be finished, then placed in locating pegs before the fuselage halves are joined. I've found this makes filling the fuselage seam lines much more difficult. Instead, I mounted the wings after joining the fuselage.

To accomplish this, I removed the gears which make the wings swing in tandem, **25**. Then, I sawed V-shaped slots on either side of the pivot hole, **26**. I removed the plastic from this area, leaving an open slot that allowed me to slide the wings in after the fuselage was together.

One last addition to the wings: photoetched-metal panels from Eduard. The kit's wings lack panel detail, so this helps, **27**.

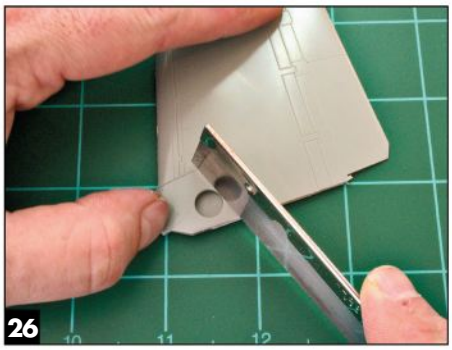
Exterior detail and paint

On the exterior, I installed several photoetched-metal pieces as well as low-intensity formation lights (known as "slime" lights because of their color) from Crossdelta. I also added Steel Beach self-adhesive vinyl slime-light pieces.

With all the various resin and photoetched-metal materials, I thought it best to give the model a primer coat. However, I didn't want to paint over lights that were already in place. I protected lights on the wingtips and tail with Microscale Liquid Mask. A set of Steel Beach masks took care of the navigation lights on the wing gloves, **28**. Masks in place, I covered the cockpit and sprayed Alclad II gray primer, providing a uniform base color and a good footing for the acrylic paint.

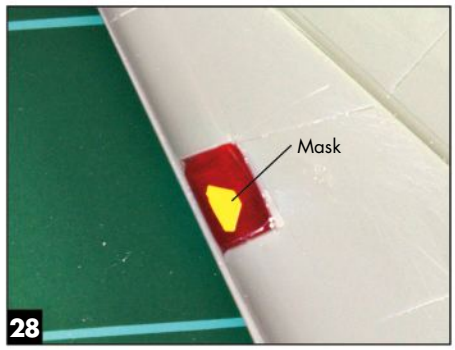
I always paint and weather simultaneously, as it would occur in real life. I start by painting the colors fresh from the bottle. For this Tomcat, it was the standard Tactical Paint Scheme (TPS) colors of light ghost gray (Federal Standard 36375) on the undersides and fuselage, dark ghost gray on the tails (FS36320), and medium gray (FS35237) on the upper surfaces.

Then I started the weathering process. Carrier jets get extremely



Darren sawed away enough plastic to allow the wings to slide into the fuselage after it was glued together and its seams were smoothed.

Eduard photoetched metal added welcome relief to a relatively featureless wing surface.



A precut mask from Steel Beach Accessories was the right shape for the navigation light.

Carrier-based Tomcats got scruffy — after primary painting, Darren starts the grime by post-shading with Tamiya smoke.

Lighter shades, applied irregularly, provide interesting shades of gray.

dirty as the dull, gray paint collects grime. To simulate this appearance, I sprayed a light coat of Tamiya smoke overall, concentrating it along panel lines, **29**. After dirt came corrosion-control touch-ups. Using my airbrush's fine tip, I sprayed light ghost gray where touch-ups are routine, such as access doors and hatches. Then I randomly sprayed small blotches to break up the monotony of grays, **30**.

With the touch-ups completed, I oversprayed a mist of light ghost gray to blend and fade the upper surfaces. Then I sprayed Pledge Future floor polish to provide a smooth, glossy surface for decals.

Decals and more weathering

I'm not excited by the prospect of modeling hundreds of rivets with a pin vise or ponce wheel. Instead, I picked up a set of dark gray rivet decals from Mike Grant Decals and applied them around panel lines on the fuselage. Sanding around the resin nose conversion had obliterated the panel lines there; I followed line drawings to place rivets in that area.

Then I applied the rest of the markings for VF-103 from an (out of production) Afterburner Decals set. Micro Sol setting solution settled them onto the surface, and a coat of Alclad II clear flat sealed them.

The final weathering took place in two steps: First, I drew in panel lines with a Micron .005" black ink pen, **31**. This was particularly effective upfront where panel lines had been sanded away. I drew the lines, waited 30 seconds, and then wiped them with a damp cotton swab, **32**. This allowed most of the ink to set but made the black look less stark. I did this to recessed panels as well, and penned dirt streaks coming from rivets and panel lines.

The second step was to give the entire model a filter/wash with a thin mixture of lamp black, burnt umber, and Payne's gray artist's oils, **33**; this layer should be very thin with barely perceptible color. I let the wash dry but checked for areas where it had pooled and cleaned those up with a cotton swab. When it's dry, this treatment unifies elements and provides a final layer of dirt.

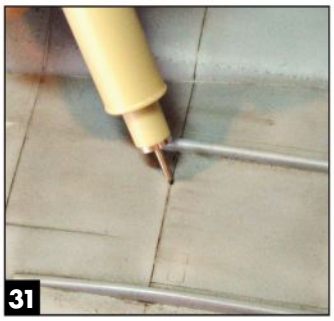
The last bits

Now for the fiddly bits: The landing gear and doors, engine nozzles, and canopy all still needed to be glued on.

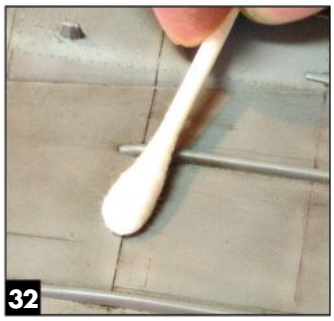
Before gluing the gear doors, I applied a wash of Tamiya smoke to bring out the engraved detail, **34**. After painting the inside of the gear bays and doors white, I brushed on smoke thinned with water, wicking up excess with a brush. When that was dry, I used a red Sharpie to "paint" the doors' edges.

SOURCES

Resin details, slime lights, and masks, Steel Beach Accessories, www.steel-beach.com
Turned-brass alpha probe, Hobbydecal, www.hobbydecal.com
Self-adhering slime lights, Crossdelta, available from www.spruebrothers.com
Rivet decals, Mike Grant Decals, www.mikegrantdecals.com

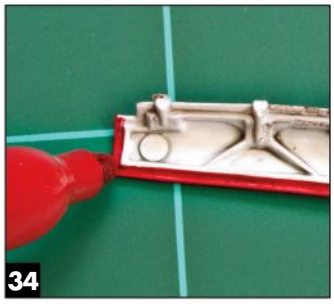


A superfine-point pen picks out panel lines …

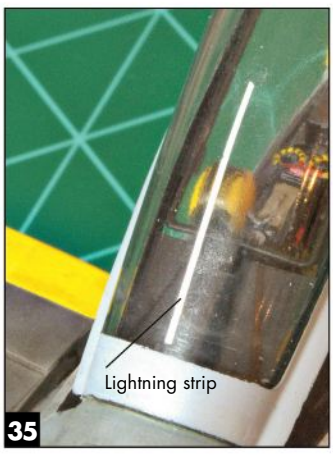


… but Darren swabs away some of the ink to make it look less fakey.

A wash deepens recessed detail, but keeping it very thin is the key to subtlety.



A wash of Tamiya smoke added detail to this gear-bay door; a red felt-tip pen "paints" its edges.



Darren says lots of modelers forget the lightning strips in the F-14's canopy.

A thin layer of Tamiya clear green and Darren's Tomcat was ready for launch.

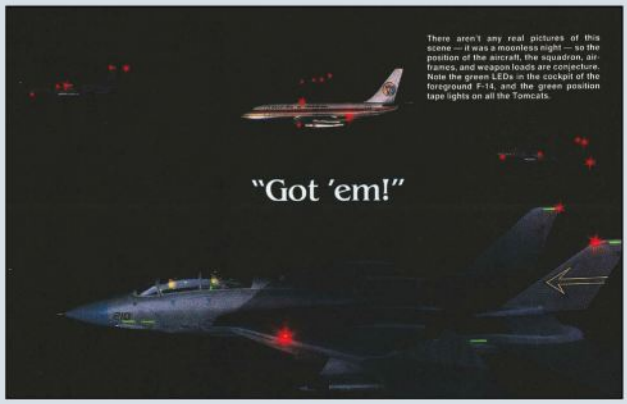
Before attaching the canopy, I added the thin lightning strips on the inside (a small detail often missed on Tomcats). I used thin, light gray strips of decal to replicate them, **35**. When the decal strips were dry, I super glued the canopy. (I had dipped the canopy in Future, so the super glue didn't fog the clear plastic.)

I wanted to display the plane all "buttoned up," so I added a set of vinyl intake covers and resin probe covers from Steel Beach as well as a set of Eduard colored photoetched-metal Remove Before Flight tags. I also set a couple of helmets on the canopy sill. These came from pilot figures in the Revell/Monogram Phantom kits. After the figures were decapitated, I used a drill bit to scoop out the inside of the helmets. The helmet straps are small pieces of white, self-adhesive vinyl.

To tint the middle area of the windscreen, I thinned Tamiya clear green and carefully brushed on a thin coat, **36**.

And with those final few strokes of a brush, I finished the 128th Tomcat of my modeling career! **FSM**

The *Achille Lauro* incident


There aren't any real pictures of this scene — it was a moonless night — so the position of the aircraft, the squadron, airframes, and weapon loads are conjecture. Note the green LEDs in the cockpit of the foreground F-14, and the green position tape lights on all the Tomcats.
"Got 'em!"

Paul Boyer's forced-perspective shadowbox dramatized the interception of an EgyptAir Boeing 737 airliner by American F-14s (October 1986 *FSM*).

ON OCT. 7, 1985, four members of the Palestinian Liberation Front commandeered the Italian cruise ship *Achille Lauro* in the Mediterranean Sea off the coast of Egypt and directed it to the Syrian coast. There, they demanded the release of 50 Palestinian prisoners and threatened to kill 11 American tourists onboard. When Syria denied permission to anchor, the hijackers murdered an American retiree, Leon Klinghoffer, and had him and his wheelchair thrown overboard. The *Achille Lauro* sailed back to Egypt and Port Said. After two days of negotiations, the hijackers surrendered to Egyptian authorities and relinquished the ship in return for safe passage out of the country.

However, U.S. President Ronald Reagan had placed the Sixth Fleet on alert. As the hijackers, along with PLF leader Abu Abbas, boarded an EgyptAir flight to Tunisia, Reagan ordered the USS *Saratoga* to intercept the airliner. Several F-14s (including members of VF-103 and VF-74), an E-2C Hawkeye, an EA-6B electronic warfare Prowler, and two KA-6D tankers were launched before they knew their target's position. However, before long they located the EgyptAir 737. Four F-14s, running with lights out on a moonless night, edged up to the airliner, one of them close enough to shine a flashlight on the aircraft to confirm the identification.

With the fighters in position, the E-2C hailed the EgyptAir flight and instructed it to immediately divert to a NATO base in Sigonella, Italy. Initially confused, the airliner captain balked.

Then the F-14s turned on their lights. "The pilot became much more cooperative," recalled Ken Burgess of VF-74. "We all know how big the Tomcat looks up close, even to an airliner."

The 737 tried to obtain permission to land at Tunis, then Athens. No luck. The airliner landed at Sigonella (although the shaken pilot reportedly needed two tries to put it down). After a tense standoff with U.S. special forces, Italian authorities took custody of the hijackers — and, to the chagrin of the Americans, released them, although eventually three of the four hijackers (one was a minor) were imprisoned. The mastermind of the hijacking, Abbas, slipped away. By the 1990s he had drifted to Iraq, where he was captured by American forces in 2003 and died in custody.

– Mark Hembree

1/35 Scale

Cristóbal merged two kits with a lot of styrene sheet to build the super-sized KV-220, a design tested by the Red Army before World War II.

Building a prototype tank

Scratchbuilding plus two Trumpeter KV kits for a Soviet heavy hitter

BY CRISTÓBAL VERGARA

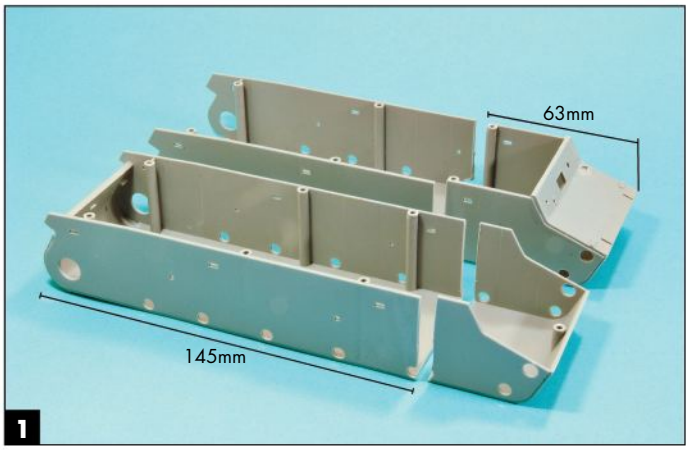
Keen to counter rumored new German heavy tanks, the Soviet Army in 1940 requested an upgunned and uparmored version of its then-new KV tank. Designated KV-220, the prototype featured an enlarged hull with thicker armor and a bigger turret mounting the new F30 85mm gun. The improvements increased the tank's weight from 45 to 62 metric tons, taxing the 700 horsepower engine as testing commenced in late January 1941.

In May, a new V-2SN diesel engine with supercharger producing 850 horsepower was installed, and more testing ensued. A 107mm Zis-6 gun replaced the 85mm main armament. The Soviets built a second KV-220, but all development halted when the Germans invaded in June 1941.

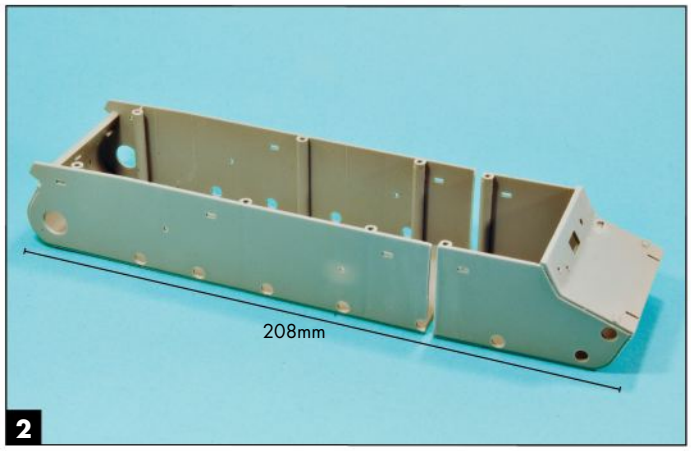
The two original KV-220 vehicles reportedly deployed with the 124th Tank Brigade before being destroyed during the defense of Leningrad in late 1941.

For the long hull

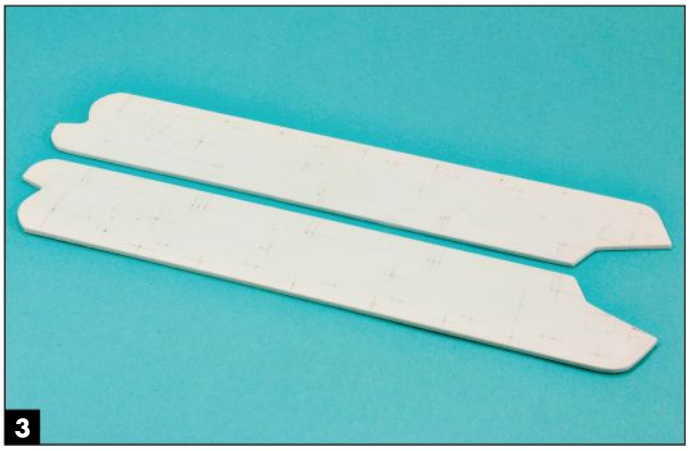
The lower section of the KV-220 is basically an elongated KV-1 with an extra set of road wheels and a new engine deck. To get there in scale, I spliced sections of two Trumpeter KV-1 (early) hulls.



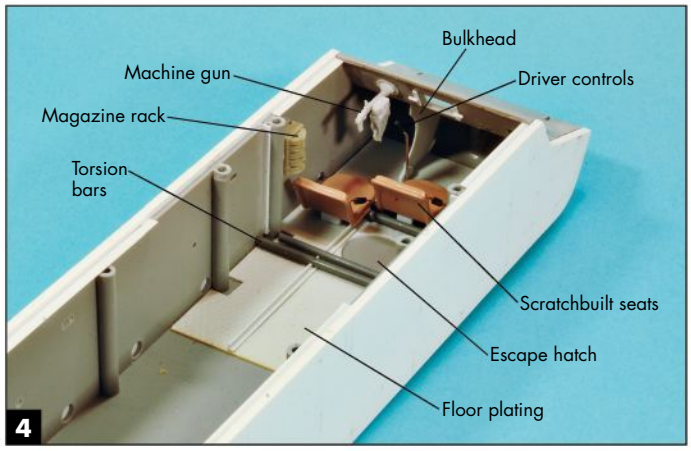
Two hulls into one: Cristóbal sectioned each KV-1 hull with straight cuts.



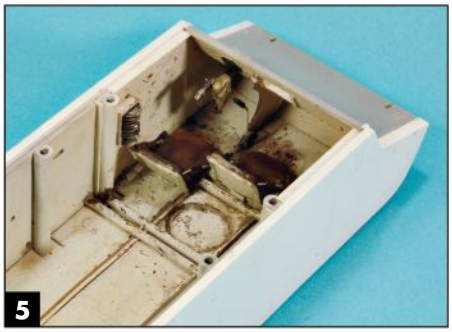
Joining the sections added up to the KV-220 hull.



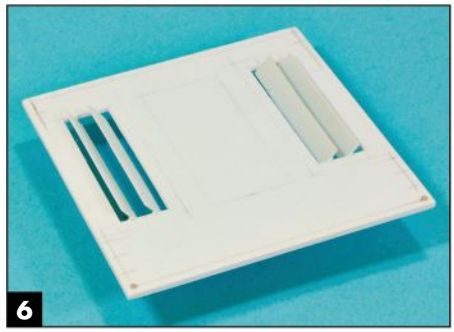
After cutting hull sides from .080" styrene, Cristóbal marked locations for road-wheel arms, shock absorbers, return rollers, and fender brackets.



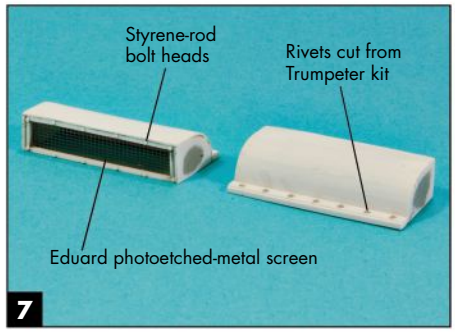
Cristóbal built seats for the machine gunner and driver, added textured styrene floor plates, and sundry bits and bobs that can be seen through hatches.



After airbrushing the walls and floor white, Cristóbal hand-painted the seats leather with orange brown highlights, and the gun and magazines gunmetal. He weathered with washes and scratches.



Cristóbal detailed the engine cover with louvered intakes.



Using sheet and strip styrene, Cristóbal scratchbuilt armored intakes unique to the KV-220.

First, I cut apart one hull 63mm (2.48") back from the nose, keeping the front and discarding the rear. Moving to the second hull, I sawed through it 145mm (5.7") from the rear, **1**.

Joining the bow of the first and the stern of the second made the new hull 208mm (8.19") long, **2**.

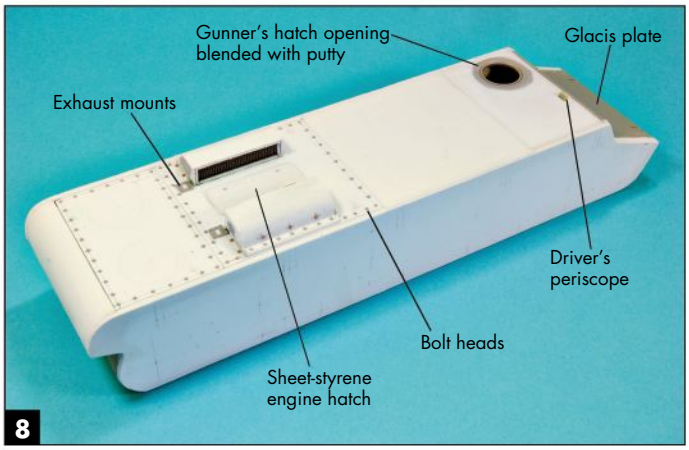
I fashioned new side walls from 2.2mm-thick (.080") sheet styrene, marking the location of road-wheel arms, shock absorbers, return rollers, and other equipment, **3**.

I wanted to pose the driver's hatch open, so I added detail, **4**, then painted and weathered it, **5**.

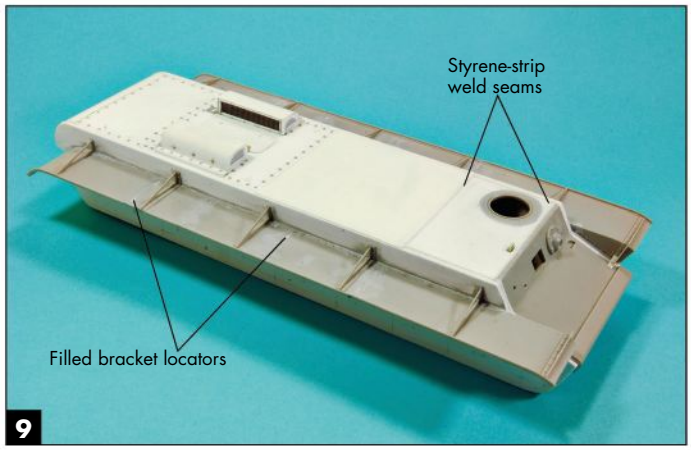
Topping out

I measured the opening, then cut 1mm sheet styrene for the armor on the hull top. From the front, the four plates measure 31mm (1.22") wide x 51mm (2") long; 53mm (2.08") x 53mm; 54mm (2.13") x 51mm, and 31.5mm (1.24") x 51mm. I marked the locations of bolt heads, grilles, and hatches. I planned to leave most of the hatches closed, so I simply glued items from the KV-1 kits into place. To pose the driver's hatch open, I grafted in the surrounding plastic from the Trumpeter kit.

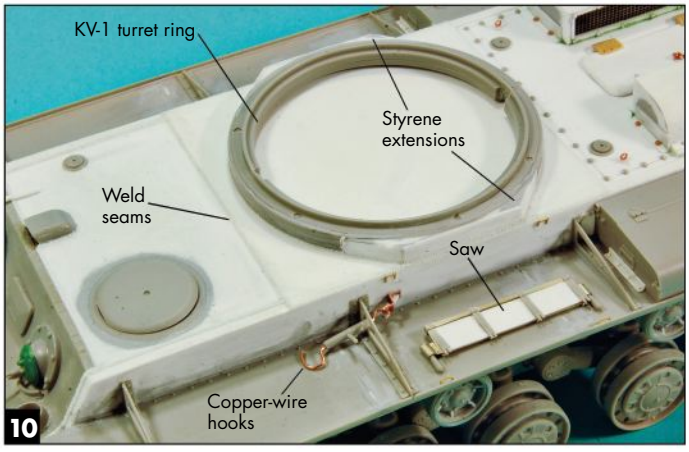
The KV-220 had armored scoops over



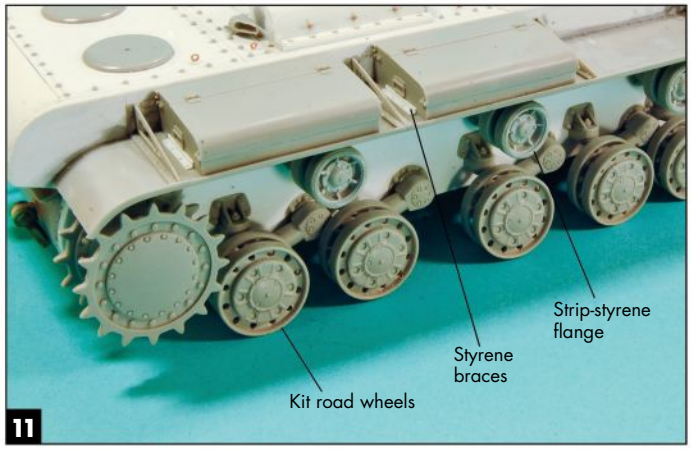
Basic hull done: Cristóbal detailed the scratchbuilt armor plates with parts from the Trumpeter kits.



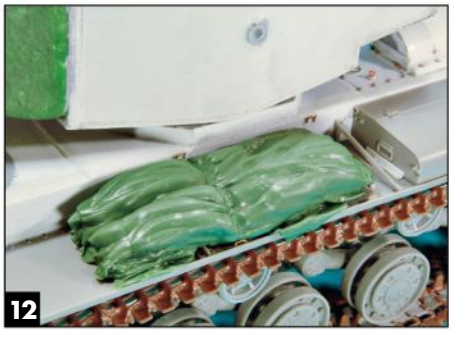
Cristóbal relocated the fender brackets after installing longer fenders built from the kits.



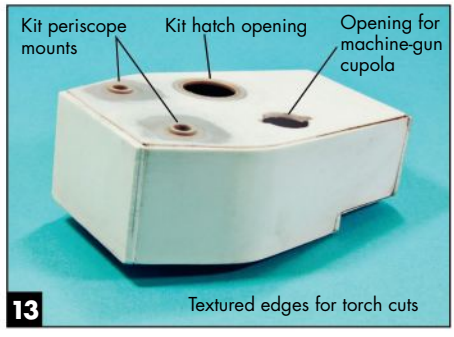
After attaching a turret ring from one of the KV-1 kits, Cristóbal used styrene strip to build the angled protrusions on the sides.



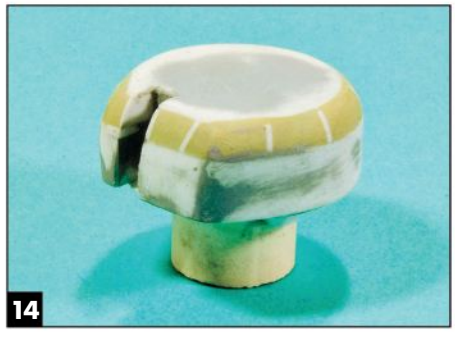
Installing toolboxes from Trumpeter's early KV-2 kit, Cristóbal added mounting hardware made from styrene strip and rod.



Referring to photos, Cristóbal lashed a tarp to the tank's fender. He sculpted it from two-part epoxy putty.



Cristóbal scratchbuilt the turret from sheet styrene, using plans to get the shapes and dimensions right. He grafted on kit-provided mounts for periscopes and hatches, blending them into the surface with putty.



Cristóbal roughed out the machine-gun turret with styrene, then smoothed the shape with putty.

the louvered intakes on the engine deck. First, I cut holes for the intakes and installed sheet-styrene louvers, **6**. I made the covers from sheet styrene, too. They are 30mm (1.2") long, 12mm wide (.47"), and 7mm (.28") tall with a curved cover, **7**. I screened the front of the intakes as well as the vent under the rear hull lip with Eduard photoetched-metal mesh.

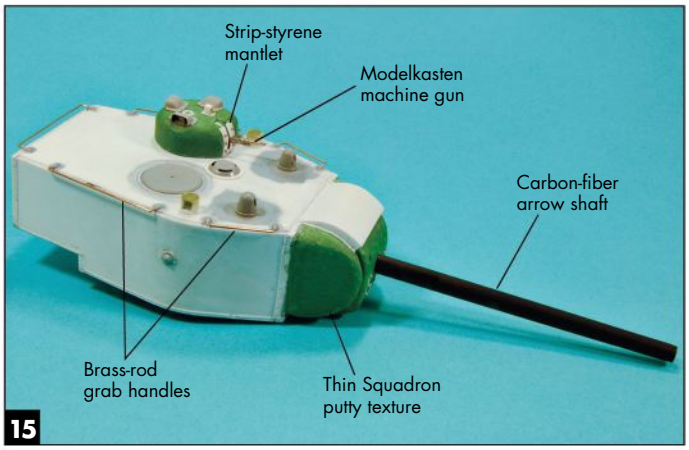
I made the curved armor plate on the rear hull with 2.2 mm (.080") styrene sheet, bending it with heat from a hairdryer. I detailed the plates with bolts I carefully sliced off the Trumpeter kit parts with a sharp knife, **8**.

Hull sides

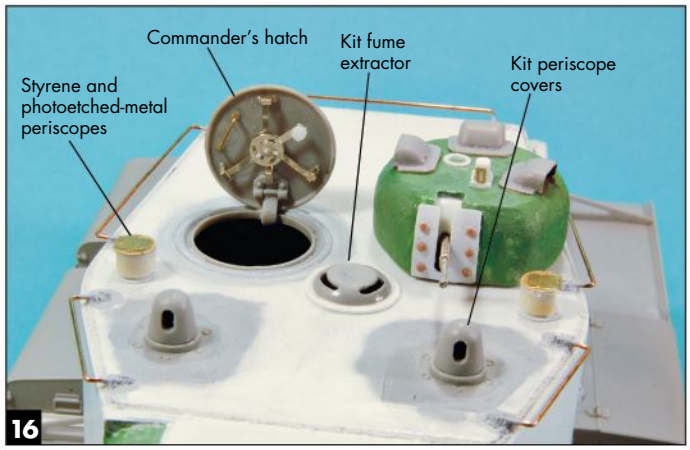
To get fenders long enough to fit the new hull, I cut the kit fenders. I joined 151mm (5.94") sections from the front of two fenders to 57mm (2.24") sections from the rear of the other two.

The front and aft fender supports stay in place, but the other three are spaced evenly along the fender. I filled the locators with putty before placing the brackets in the new positions, **9**.

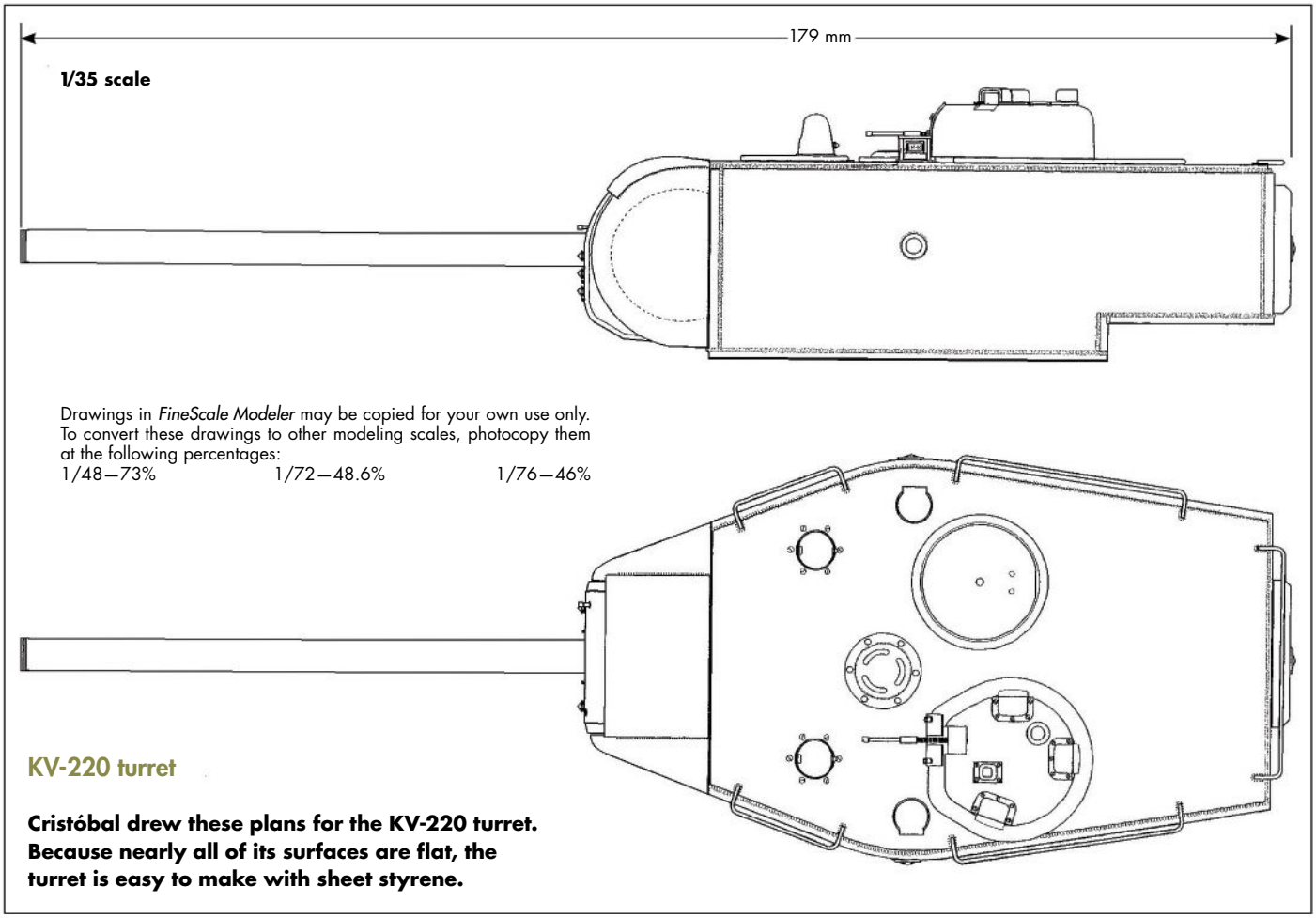
I added weld seams between plates by softening styrene rod with solvent cement and texturing it with a knife blade.



A carbon-fiber arrow shaft, cut to size and shaped on a makeshift lathe, provided the barrel for the 107mm gun.



Cristóbal detailed the inside of the crew hatches with photoetched metal, brass wire, and styrene.


179 mm
1/35 scale
Drawings in FineScale Modeler may be copied for your own use only. To convert these drawings to other modeling scales, photocopy them at the following percentages:
1/48—73%
1/72—48.6%
1/76—46%
KV-220 turret

Cristóbal drew these plans for the KV-220 turret. Because nearly all of its surfaces are flat, the turret is easy to make with sheet styrene.

I glued the turret ring from one of the kits into the upper hull and added strip styrene for the angled sides, **10**.

Suspension and stowage

Using a sharp, thin knife, I carefully removed the road-wheel-arm and shock-absorber locators from the Trumpeter hull sides.

I attached them to the KV-220 hull, then installed the running gear. Each return roller received styrene flanges to replicate those on early KV tanks.

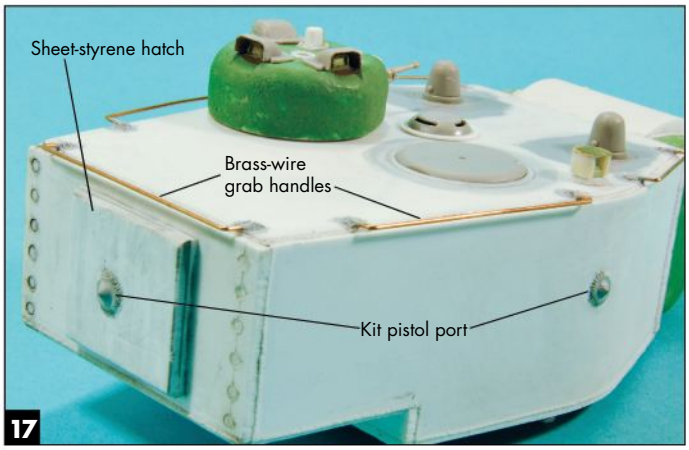
I installed toolboxes from a Trumpeter KV-2 1939 kit, securing each with L-shaped styrene braces, **11**.

I powered the light and horn with copper wire. The KV-220 carried the same saw as the KV-1; I detailed it with styrene sheet and photoetched metal. I ended up covering it with a tarpaulin made from Sylmasta two-part epoxy putty to match photos, **12**.

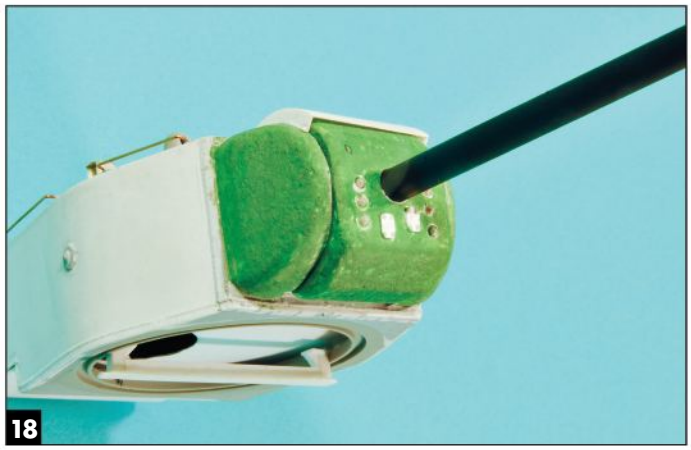
Turret

I scratchbuilt the turret with sheet styrene, using drawings to get the shape and dimensions, **13**. I detailed it with hatches, periscopes, a fume extractor, and corresponding mounts from the Trumpeter kit. I textured softened styrene rod for weld seams and added brass-rod grab handles.

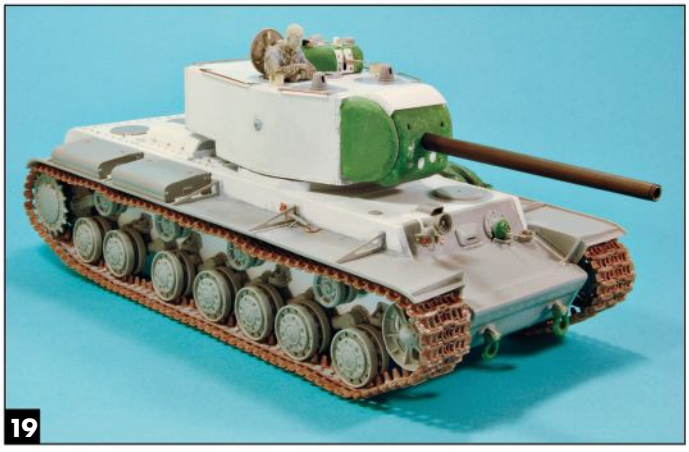
To model the Zis-6 barrel, I cut a 4.8mm-diameter (.19") carbon fiber arrow shaft. The barrel protrudes 78mm (3.1")



A hatch, bolt heads, and grab handles detail the rear of the turret.

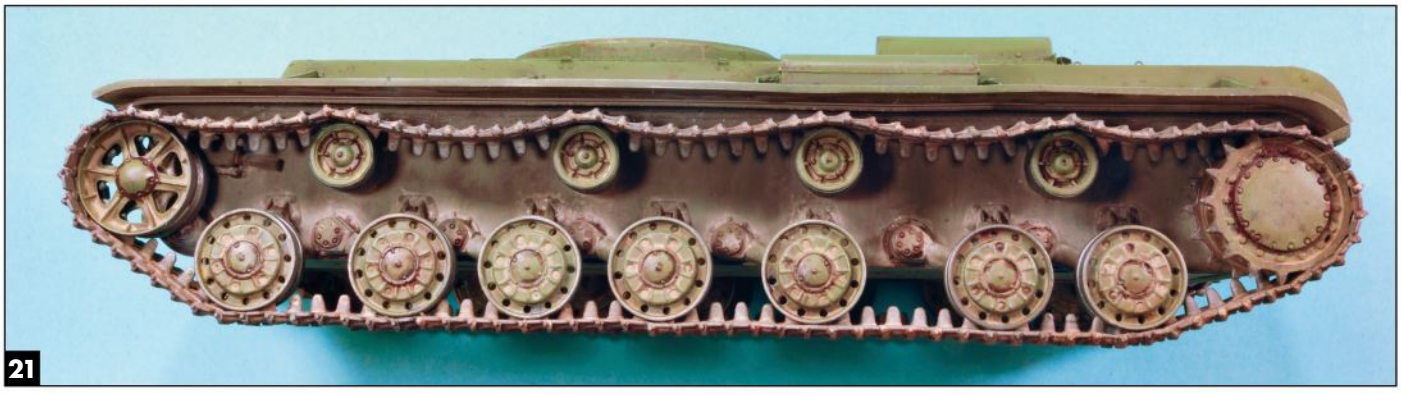


Cristóbal daubed the mantlet with Squadron green putty thinned with liquid cement to replicate a cast texture.



While a KV-1 used 98 links on each run, Cristóbal's KV-220 needed 109 for each side. He painted them off the model, then installed them at the end of the project.

Cristóbal airbrushed a base coat of Humbrol U.S. dark green, then sprayed slightly different shades for highlights and shadows.



Mig Productions pigments make the running gear appear used.

from the mantlet; I cut it longer to account for the mount. Turning the shaft on a motor tool, I carved a notch at the muzzle.

I made the machine-gun turret with styrene and Milliput epoxy putty, **14**. The white-metal Degtyaryov machine gun came from a Modelkasten kit. I added weld seams, **15** and **16**.

I wanted to display my KV-220 with a pair of figures and the hatches open, so I detailed the inside of the hatches with Aber photoetched metal, **17**. Thin Squadron green putty, applied to the surfaces and stippled with a brush, produced a roughcast texture, **18**.

Before painting, I built lengths of track using two sets of Modelkasten individual-link tracks, **19**.

One color from many

Contemporary photos showed the KV-220 in standard Soviet overall olive green without markings. The challenge of such a simple scheme is making the model look real and used.

I started with a base of Humbrol U.S. dark green enamel (No. 116). Then, I lightened the color and post-shaded, **20**.

A few days later, I applied Mig Productions gray filter to subtly alter the tone of some panels. I misted clouds of sepia over the intake grilles, and tan around the crew hatches.

Next, I streaked earth-tone artist's oils down the sides of the tank.

I worked Mig European dust pigment into corners and crevices on the vehicle, concentrating on the lower hull, **21**. White spirit fixed the powder to the surfaces. I added grease stains to the wheel hubs with a mix of red, yellow, and black oil paint and gloss varnish.

The tracks and tow cable received a base coat — a mix of black and gunmetal — followed by a layer of aluminum and a red-brown wash. I weathered them with Mig pigments, then dry-brushed silver. I painted the tow-cable ends green and khaki.

To replicate scratched and peeling paint, I applied dark green paint with a fine brush. A pencil rubbed along edges added wear around hatches. I painted the exhausts with several rust shades, then darkened the openings with black pigments, **22**.

To color the tarpaulin, I used Vallejo Model Color Soviet uniform khaki. **FSM**

Cristóbal finished weathering with oil washes, paint scratches, and graphite rubbings.

To crew the hulking beast, Cristóbal modified the heads of resin figures from Stalingrad and Master Club.

Reader Gallery

▲ ROSS ARMSTRONG
COLLIERVILLE, TENNESSEE
Ross writes: "I used Hasegawa's 1/48 scale 'RF-4B Phantom II Marine Corps' to build a U.S. Air Force RF-4C flown by Capt. Bueker in the 16th Tactical Reconnaissance Squadron of the 363rd Tactical Reconnaissance Wing at Shaw Air Force Base." He painted with Gunze Sangyo acrylics and used a mix of AirDOCDecals Gulf War Warrior sheet (No. 48006) and homemade decals. "The tail number is not accurate but matches the wishes of the pilot," Ross says. He painted the acrylic-rod stand with a mixture of Gunze Sangyo oranges and Tamiya yellow and orange clears.

▼ SAMUEL WEAVER
XENIA, OHIO
The Douglas SBD Dauntless dive bomber was effective throughout the Pacific in World War II, but probably most famously so in the pivotal Battle of Midway, during which U.S. Navy SBDs took out four Japanese carriers — three of them in less than 10 minutes. Samuel built Accurate Miniatures' 1/48 scale SBD-3 and painted it with Testors Model Master Acryls.

JAMES BOYCE
MILWAUKEE, WISCONSIN
James painted Trumpeter's 1/35 scale Stryker with Testors Model Master acrylics and artist's oils, then weathered with washes and mud. James said he especially enjoyed the kit-supplied decals and photoetched metal.

RICK KRANIAS
KENSINGTON, MARYLAND
Using a Model Design Construction (MDC) resin conversion kit, Rick converted Tamiya's 1/32 scale A6M2b to an A6M2-N "Rufe." Eduard photoetched metal graces the engine, flaps, and interior, while Master Model 7.7mm machine-gun barrels and CMK 60kg bombs add firepower. Maketar Masks for the national insignia and tail number, as well as Eduard masks for the canopy, made painting them easier; the warning markers on the main float and ID bands on the wings are also painted. Rick used Tamiya J.N. green and J.N. gray for upper and lower surfaces, with various shades of Alclad II for the engine and prop.

MICHAEL ALWES
FAYETTEVILLE, NORTH CAROLINA
Michael souped up Tamiya's 1/48 scale Spitfire Mk.I with an Eduard cockpit detail set, Airwaves decals, Quickboost exhaust stacks, and an Aires propeller. He airbrushed Tamiya and Gunze Sangyo paints over pre-shaded panel and control-surface lines and applied an artist's oil wash and pastel weathering, plus Floquil old silver for chipped paint. *Simon Hopkins photo.*
FSM

SCALE MODELING ESSENTIALS

Making a GOOD ZERO BETTER

Part 3: Painting and weathering field-applied camouflage

BY AARON SKINNER

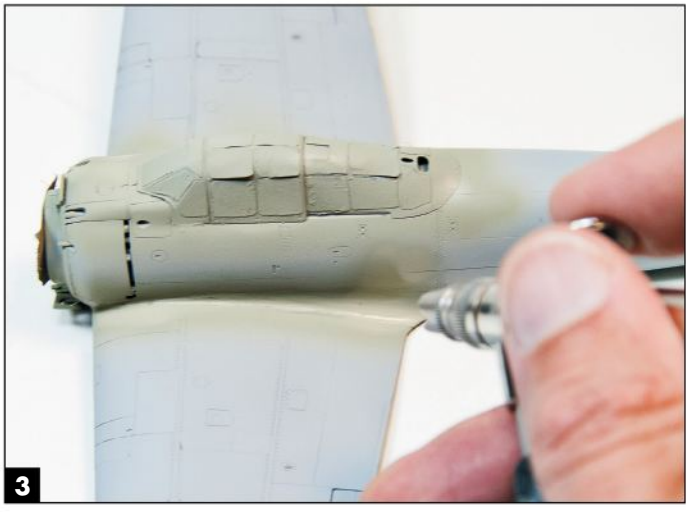
Aaron used a protective layer of clear gloss to realistically distress the quickly sprayed dark green camouflage.

In the first two parts of this build, I dressed up Tamiya's 1/48 scale A6M3 with Eduard photoetched metal. I replaced parts of the cockpit with colored details in Part 1, and, in the second installment, I added photoetched-metal flaps.

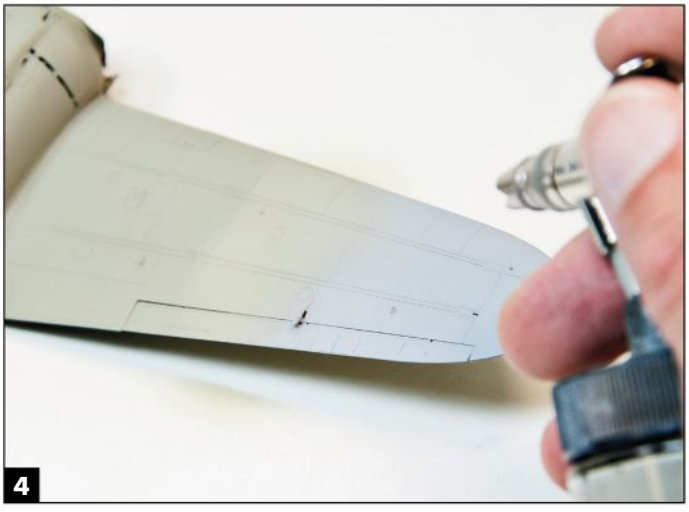
All that was left was painting. Modeling a plane flown by Japanese ace Hiroyoshi Nishizawa meant painting field-modified camouflage.

I sprayed the canopy with interior green so the inside of the frame would match the cockpit. Tamiya included a mask set for the complicated greenhouse.

Planning to use acrylic paint for the base coat, I airbrushed Alclad II Gray Primer and Microfiller over the model to promote adhesion. A quick rub with 1000-grit sandpaper gave the primer a velvety surface.

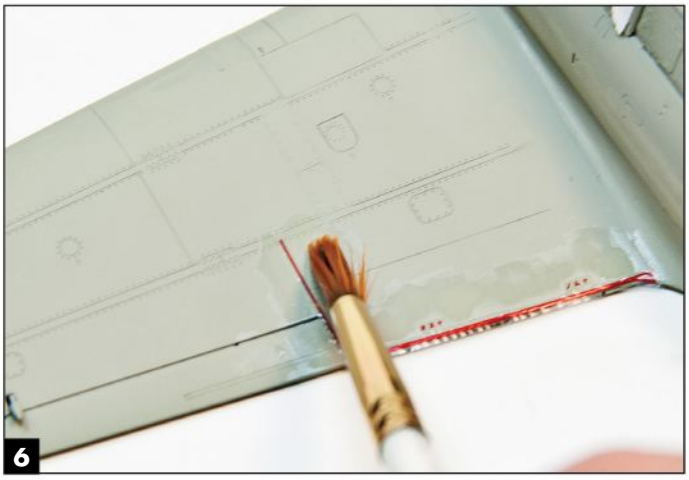


After mixing 2 parts Tamiya Japanese navy gray green (XF-76) with 1 part thinner, I airbrushed the corners, ridges, and canopy areas. I used a narrow pattern and about 25 psi pressure.

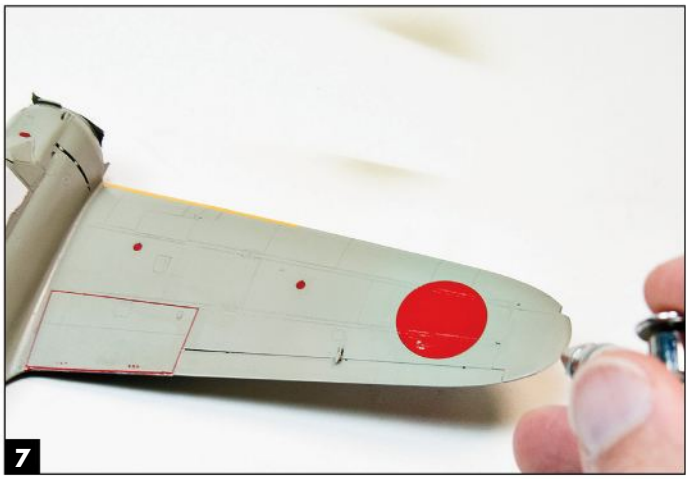


With the nooks and crannies painted, I widened the pattern slightly and sprayed the wings and fuselage. Overlapping each pass reduces the possibility of stripes appearing in the surface.

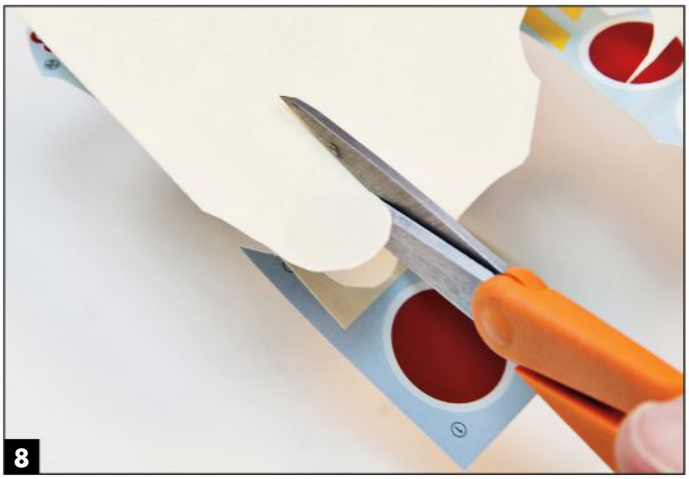
Many of the markings need to be on the model before the green is applied, but the Tamiya paint's flat finish prevents decals from adhering. To speed the process, instead of spraying the entire model with clear gloss and waiting for it to dry, I selectively applied Pledge Future floor polish during decal appliation. First, I brushed a little Future onto the decal's spot.



After soaking the decal in water, I floated it into the still-wet Future and worked it into position with a brush. I brushed more Future over the marking. You can remove excess with a cotton swab. The result is a decal sealed in clear acrylic with no chance of the silvering that occurs when air gets between the decal and the model surface.

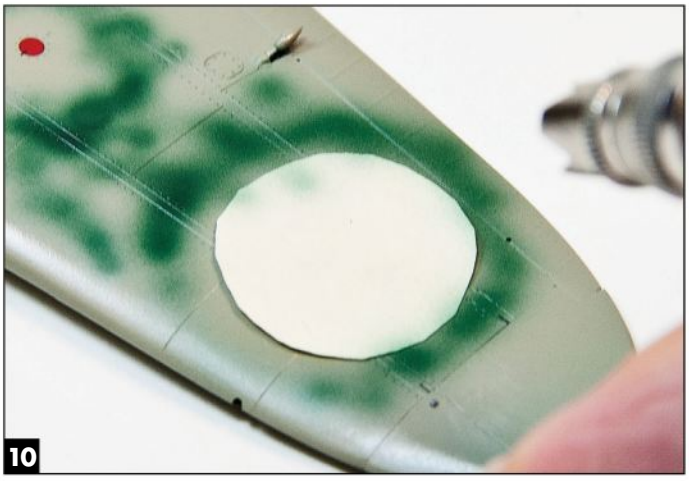


The next day, I applied Future to seal the acrylic paint and protect it from subsequent layers of weathering. I airbrush the undiluted polish at 15-20 psi. It goes on best using lots and lots of mist coats to gradually build up the layers. I made 30-40 passes over the model. This takes time but helps prevent runs or drips.

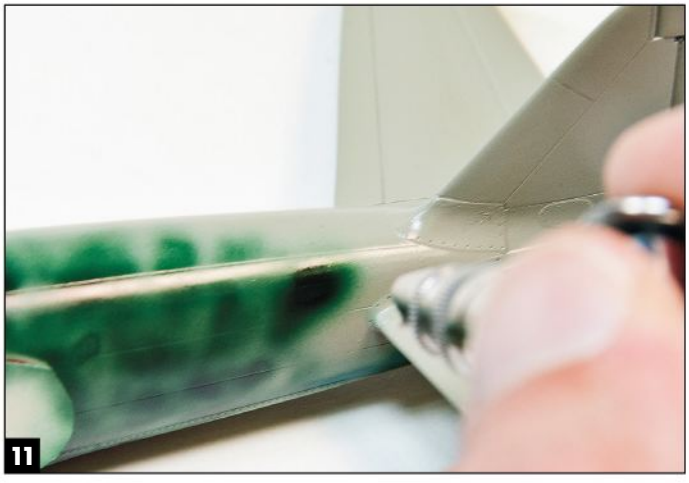


On the full-size Zero, the dark green was applied over and around the existing markings. I masked the roundels with Post-it notes, shaping them by trimming around spare roundels on the kit decal sheet. Each is a fraction larger than the roundel to leave a small margin of gray green.

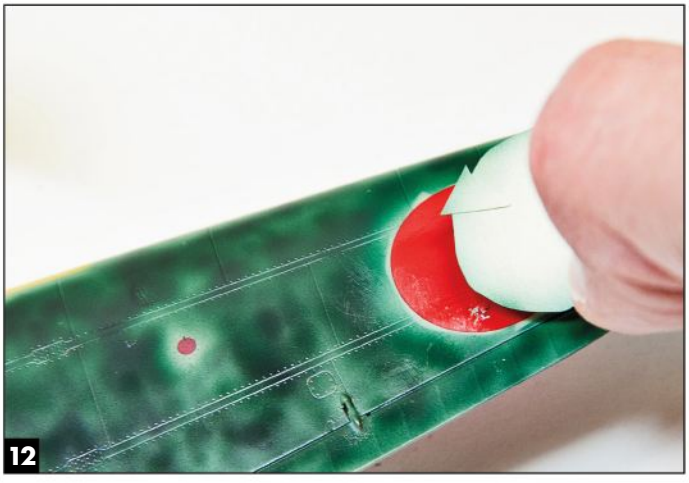
Post-it notes don't adhere perfectly to the shiny surface. But that's OK, I didn't want a hard edge around the markings.



I mixed equal parts Testors Model Master Imperial Japanese army/navy green (No. 2116) and Testors Universal Enamel Thinner. I set the spray pattern very fine and set the pressure to 15 psi. I started by spraying around the masks and other features.

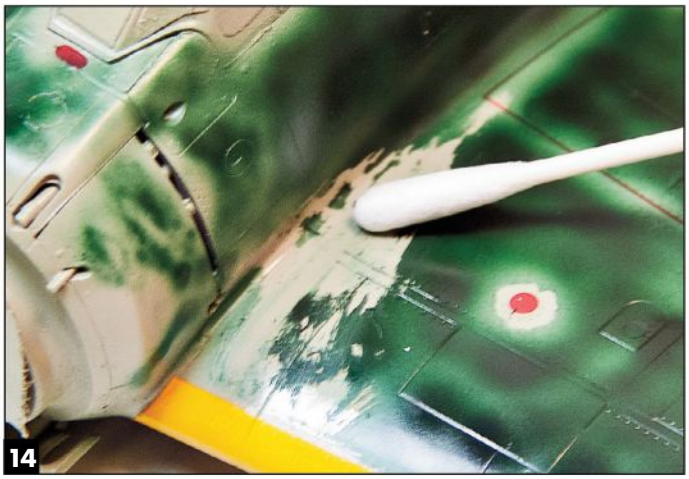


It was clear from the reference photos that the full-size aircraft was camouflaged haphazardly. So, I kept the brush moving constantly and varied the amount of paint on the surface. Hold the brush close to the surface to keep the pattern realistically narrow.



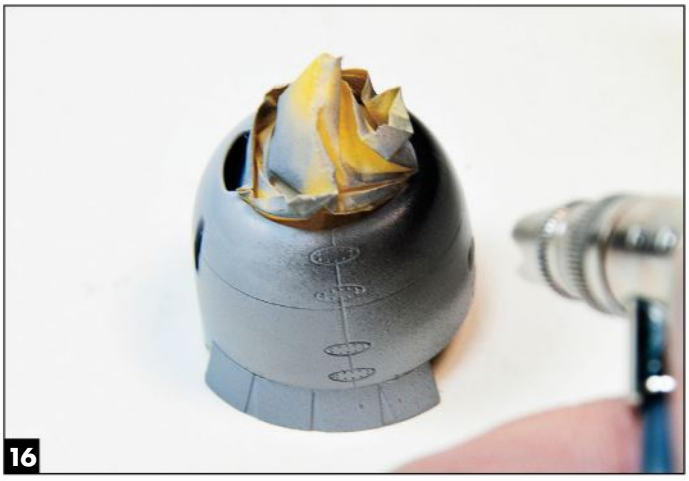
Removing the masks revealed the national markings and a little overspray. I touched the green up with a little freehand airbrush work.

I dipped a fine cotton swab in enamel thinner and dabbed most of the excess off on a paper towel. Gently rubbing this over the national insignia removed overspray. The Future protected the underlying paint and decal.



To rough up the green paint where crewmen walked while boarding and servicing the aircraft, I rubbed another thinner-damp cotton swab gently over the area, removing a little of the paint.

Stroking 1000-grit sandpaper across the leading edges in the direction of airflow eroded the green a little more. I used a folded edge to sand the paint at panel lines for more chipping.

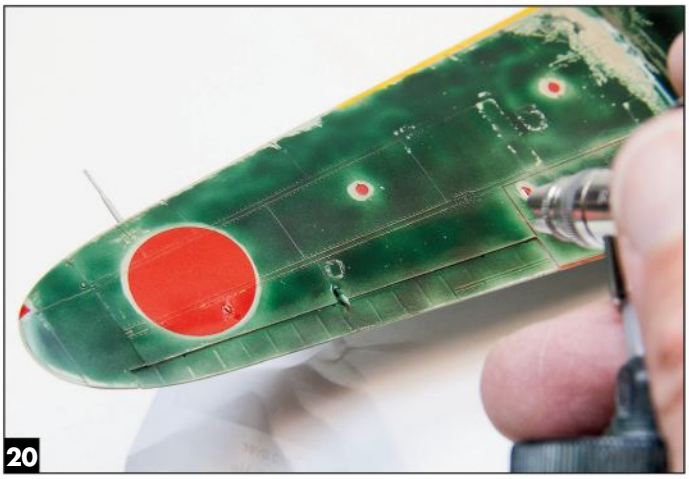


I airbrushed the cowl using Tamiya semigloss black (X-18) with a few drops of blue (X-4) mixed in.

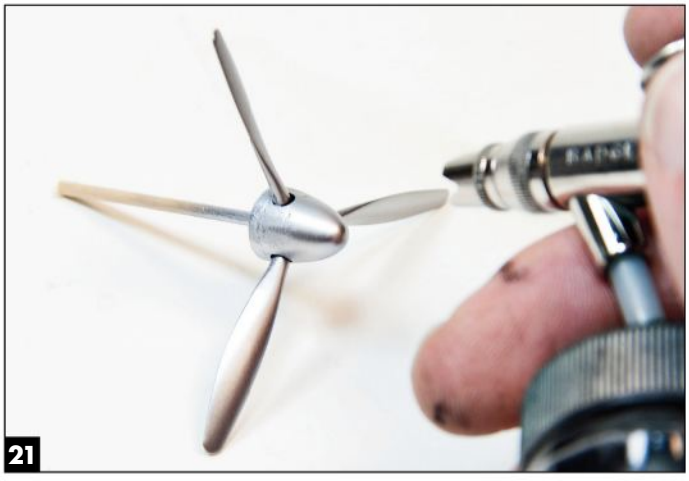
I dipped a round toothpick into a shallow puddle of silver enamel paint, then dabbed it on a sheet of paper to wick off the excess. I touched it to the cowl's edges and clasps to replicate chipped paint.

Working one surface at a time, I applied a wash of dark brown artist's oils thinned with Turpenoid to accent engraved detail. I let the wash dry for 15 minutes.

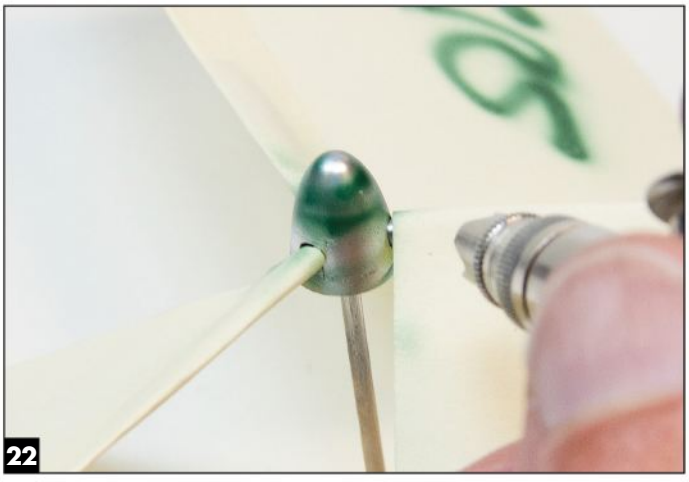
Wiping in the direction of airflow, I removed excess wash with a soft, dry piece of cotton — an old T-shirt works well. You can use a brush slightly damp with Turpenoid to remove stubborn oil paint.



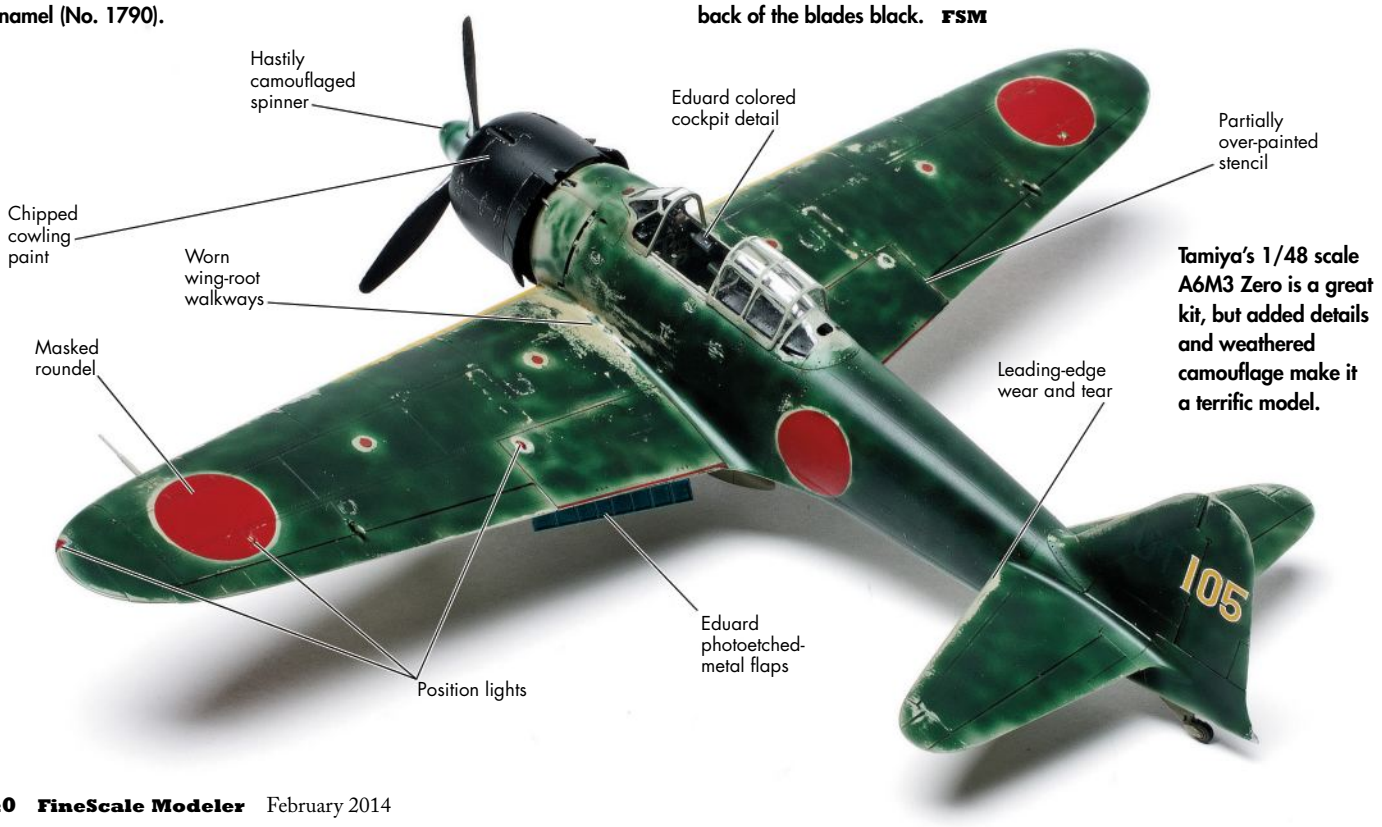
To even out the finish, I airbrushed Testors Model Master Acryl clear flat over the airframe. I finished the cowling with semigloss clear and picked out the lights with Future.



The prop and spinner received a coat of Testors Model Master chrome silver enamel (No. 1790).



I airbrushed streaks of dark green over the spinner, then hand-painted the back of the blades black. **FSM**



Tamiya's 1/48 scale A6M3 Zero is a great kit, but added details and weathered camouflage make it a terrific model.

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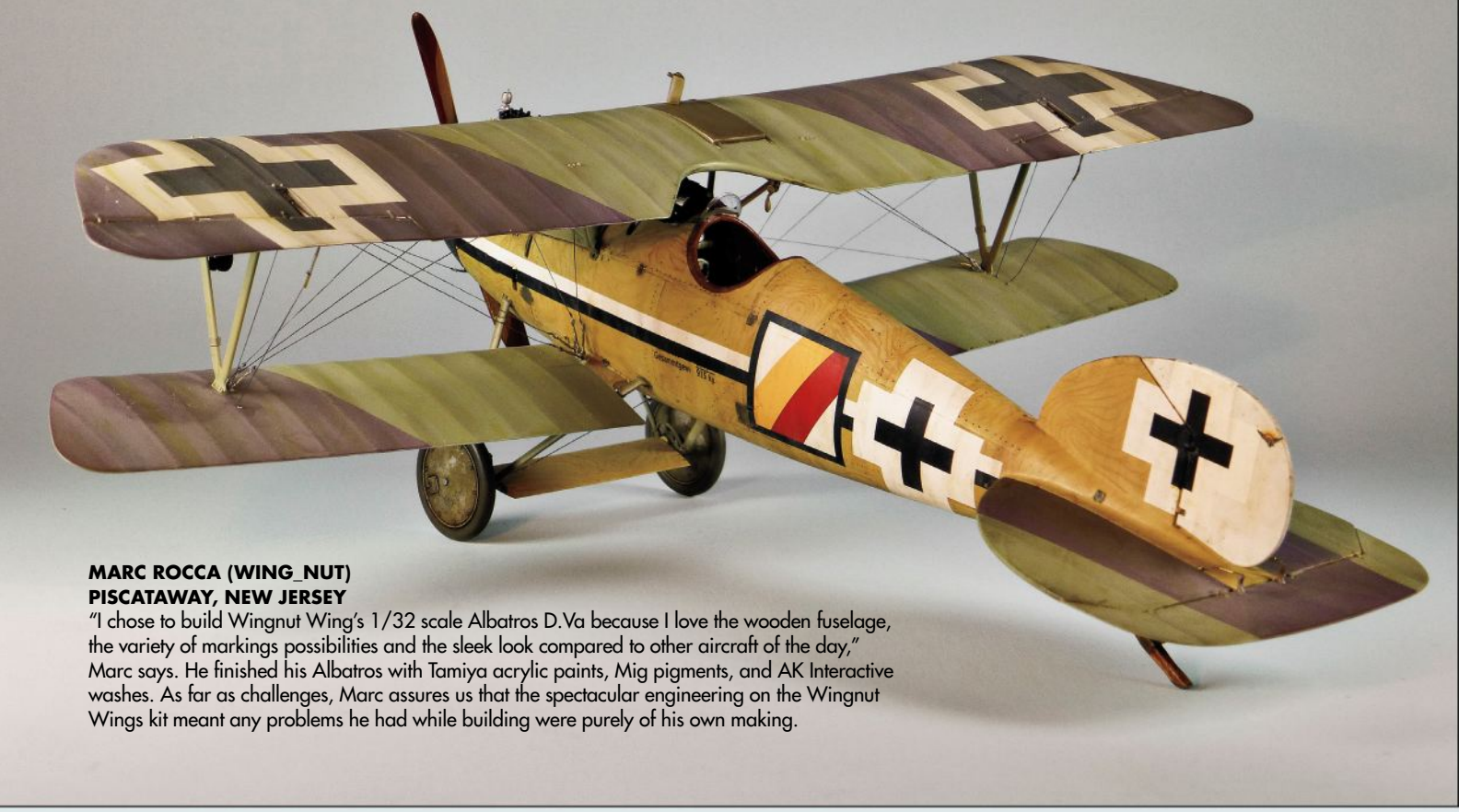


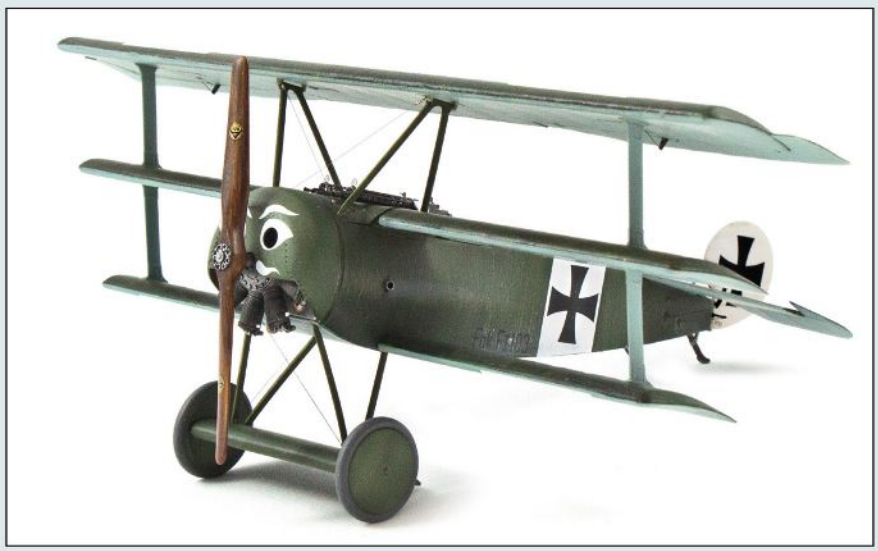
MARC ROCCA (WING_NUT)
PISCATAWAY, NEW JERSEY
"I chose to build Wingnut Wing's 1/32 scale Albatros D.Va because I love the wooden fuselage, the variety of markings possibilities and the sleek look compared to other aircraft of the day," Marc says. He finished his Albatros with Tamiya acrylic paints, Mig pigments, and AK Interactive washes. As far as challenges, Marc assures us that the spectacular engineering on the Wingnut Wings kit meant any problems he had while building were purely of his own making.

FSM World War I Aeroplane Group Build

In March 2013, associate editors Aaron Skinner and Tim Kidwell hosted *FineScale Modeler*'s first group build on the *FSM* Forum. With the array of World War I aircraft, they thought it would be fun and educational to leap into the world of early aviation and see how many Forum members would come along for the ride. Their user names are shown in parentheses.

www.FineScale.com

To see more of these and other models from the *FSM* World War I Aeroplane Group Build, visit FineScale.com/OnlineExtras.

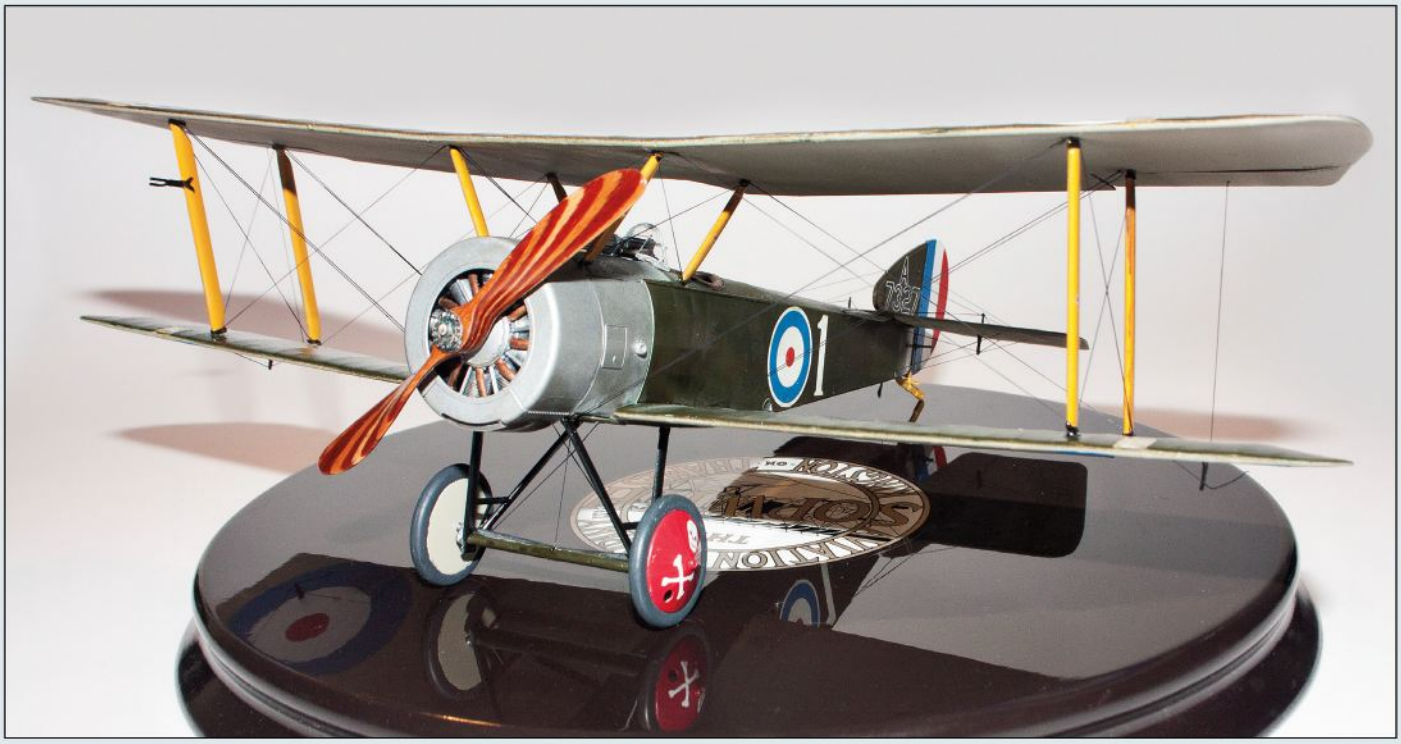


▲ **CHUCK DAVIS (CHUCK DAVIS)**
LAKE VILLA, ILLINOIS
Chuck received Encore's 1/32 scale Fokker F.1 "Werner Voss" triplane as a gift. Essentially Roden's Dr.1 with resin and photoetched-metal upgrades, the kit was a straightforward build for Chuck. However, he decided to replace the prop and a floor-mounted magneto with spares from a Wingnut Wings kit. Spandau barrels and jackets from Master replaced the kit versions. Chuck created the streaked green finish by applying artists' oils over a Tamiya tan base coat. "This was my first online group build, and I was very pleased with the camaraderie and great advice displayed by our group," Chuck says.

▲ ALEKSANDAR KRANTEV (SSASHO0)
SOFIA, BULGARIA
He's 34 and has been modeling for only two years, but Aleksandar is used to examining the minuscule — he's a molecular biologist specializing in plant biochemistry. His first biplane (the third model he built) was a Roden 1/72 scale Pfalz D.III. To Sasho, modern aircraft have looked "boring" ever since. He finished his Eduard 1/48 scale Bristol Fighter with Tamiya and Gunze acrylics, artists' oils for wood grain, and various Alclad II paints for the metal parts. He masked and airbrushed the white-and-red checked scheme. The rigging is monofilament line with turnbuckles scratchbuilt from short lengths of .5mm tube and wire. The decals needed some coaxing with Tamiya Mark Fit.

▼ MARTIN BISHOP (BISH)
BURY ST. EDMUNDS, SUFFOLK, ENGLAND
Martin chose to build Airfix's 1/72 scale Handley-Page 0/400 after receiving it as a birthday present from his significant other. "She thought it would make a nice change from my usual World War II builds," he says. "And she liked the look of all the rigging (a comment received with a grin through gritted teeth)." For his first biplane (and a big one at that!), Martin built from the box and painted with Humbrol paints. His biggest challenge was rigging the gargantuan beast, crediting help and encouragement from the group build's members for seeing him through to the end.

Gallery



▲ PHILIP MITCHELL (P MITCH)
STRETFORD, MANCHESTER, ENGLAND
Wingnut Wings' 1/32 scale Sopwith Pup had been in Phil's stash for a while when the *FSM* World War I Aeroplane Group Build started. "I thought it would be a perfect time to challenge myself in a new area of modeling," he says. He built the kit out of the box except for the wooden propeller, which was made by The Micro Group. The base was lacquered with the addition of a decal of the Sopwith Aircraft Company from Wingnut Wings. He rigged with EZ Line and painted predominantly with Tamiya acrylics. The engine and machine gun are painted with Alclad II lacquers. A black wash brought out the details.

▼ JACK GERATIC (JGERATIC)
SOUTH PORCUPINE, ONTARIO, CANADA
When he joined the group build, Jack knew he wanted to do something in Austrian markings: "My background is Slovenian, and at one time Slovenia was part of the Austro-Hungarian Empire." He liked the Albatros' lines and went with Eduard's 1/48 scale offering. Winnowing down the possible markings, he finally decided on the owl. He finished the model with various acrylic paints and designed the wood-grain and brushed-aluminum finishes on a computer, printing decals he applied to the model.

▲ GREG BALE (GREGBALE)
TOWSON, MARYLAND
Greg scratchbuilt the cockpit seat and instrument panel for his Eduard 1/48 scale Sopwith Baby. He made details for the kit guns and bombs, added stitching to the fuselage, and lengthened the main float struts with styrene stock because the kit's struts were too short. He rigged the Baby with EZ Line and stretched sprue and made turnbuckles with sections of midge tubing. To get the correct colors, Greg hand-mixed Tamiya acrylic paints. He laid the decals over a coat of Pledge Future floor polish. The checker pattern on the cowl is made with squares he cut from Microscale decal stock. Lastly, he coated the Baby with Testors Model Master Acryl clear flat. "I chose the Baby because I'm a big fan of Sopwith aircraft and floatplanes, and this group build was the perfect excuse to tackle a model I'd put off for quite a while," Greg says.

▼ MIKE WITKOWSKI (RUDDRATT)
SMITHERS, BRITISH COLUMBIA, CANADA
"I am fascinated by the whole concept of the Eindecker, from its unique 'wing torque' controls to the aces who cut their teeth on the design," Mike says. Unsurprisingly, he built Wingnut Wings 1/32 scale Fokker E.III early version, displaying the markings of Ernst Udet. He set for himself the challenge of showing "depth" in a monochromatic finish and replicating the distinctive swirled pattern on the aluminum surfaces often seen on Eindeckers. He accomplished all of that with Tamiya, Reaper, and Alclad II paints. Mike weathered his E.III with Tamiya powders and Citadel and Tamiya washes. The rigging is .003" EZ Line with Gaspatch turnbuckles. **FSM**

1/72 Scale

The Douglas A-3 Skywarrior was the heaviest carrier-based aircraft of its day, earning the sobriquet "Whale." Frank loaded Hasegawa's 1/72 scale kit with a hefty payload of aftermarket items to model it as an A3D-2 of VAH-123.

Modeling an A3D-2 Skywarrior

Aftermarket accessories help tell the tale of a Whale

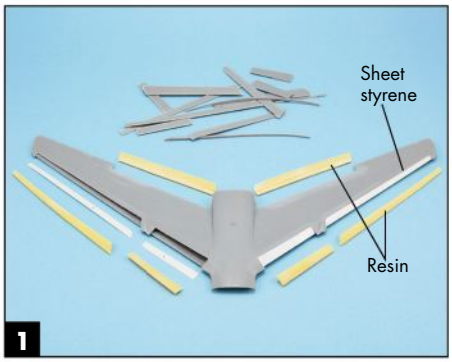
BY FRANK CUDEN

Over several years, I accumulated a mountain of aftermarket items for Hasegawa's 1/72 scale A-3B Skywarrior (kit No. 04041). Accessories may add convenience, but using as many as I did becomes a challenge of modification and construction.

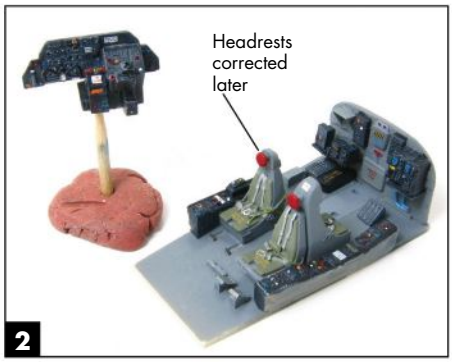
Hasegawa's kit represents a later A3D-2 (A-3B) with a snub nose and no tail turret. My goal was to model a photograph taken of an A3D-2 of VAH-123 at Moffett Field in the early 1960s. That aircraft had the early nose and tail guns.

Some sources say the trim color was red or day-glo red. But most say it was international orange, so, that's what I went with.

I quickly determined that Quickboost's resin tail-gun turret was far better than Maintrack's offering of the same piece. However Maintrack's nose modification was the only game in town. And so it goes — I tried to think everything through before I started, because I knew this project would require lots of careful cutting.



Wings underway: A pile of cutouts rests behind. I removed the slats and flaps, then glued the wing sections together. I filled voids created by removing the slats with .005" sheet styrene. No such problem with the flaps; Lone Star's resin fit well. I thinned trailing edges closer to scale.

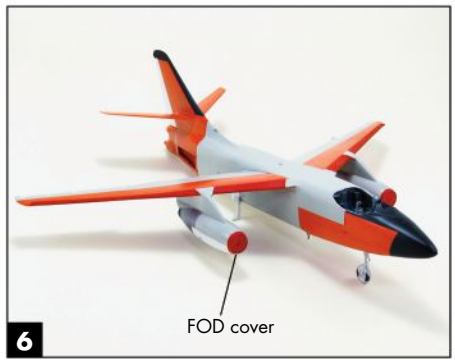


Eduard and Obscureco sets provided cockpit detail. (Later, I correctly painted the headrests black.) I planned to open the sliding top hatch, so a lot of this interior would be easily visible from above.

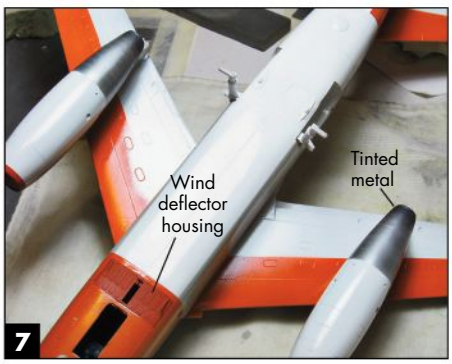
After following Maintrack and Quickboost's cutting directions, I super glued the nose and tail "stinger" resin parts in place. I airbrushed Floquil gray primer repeatedly, filling and sanding. The nacelle-to-wing seams needed work, so I attached the engines early.

To add brilliance to the colorful scheme, I sprayed a Testors white enamel base coat. This would liven up the light gull gray and reduce the number of coats necessary for ample coverage.

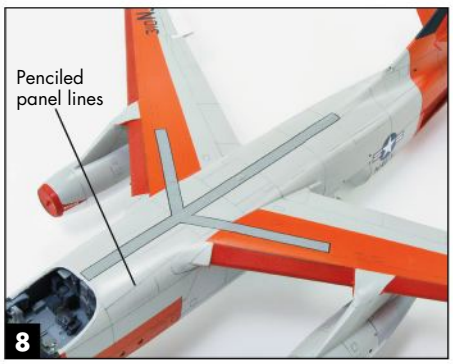
The first bit of international orange appears: I painted this color in segments rather than spending days masking to paint the orange all at once.



Still, I used almost an entire roll of Tamiya tape! Note the anti-glare panel upfront and natural-metal areas on the aft nacelles. Taking the easy way out, I made FOD covers from sheet styrene to avoid carrying the gray/white demarcation into the engines. I used a circle template to cut out .010" sheet styrene, and sanded the disks to fit just inside the lip.

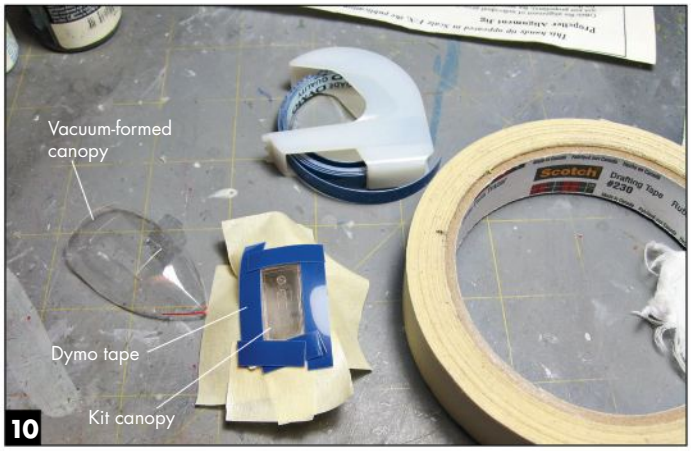


In addition to Alclad II dark aluminum on the aft cowlings, I sprayed from an old bottle of Metalizer "graphite and oil" for the darker tinted metal aft. I replaced rivet detail lost to sanding with Mike Grant silver rivet decals. Eduard photoetched metal provided a wind-deflector housing (painted Floquil caboose red) as well as slat tracks, flap wells, and dive-brake wells. Gently rolling the wind-deflector housing on the circular handle of a dental pick helped shape the metal to the curve of the belly.

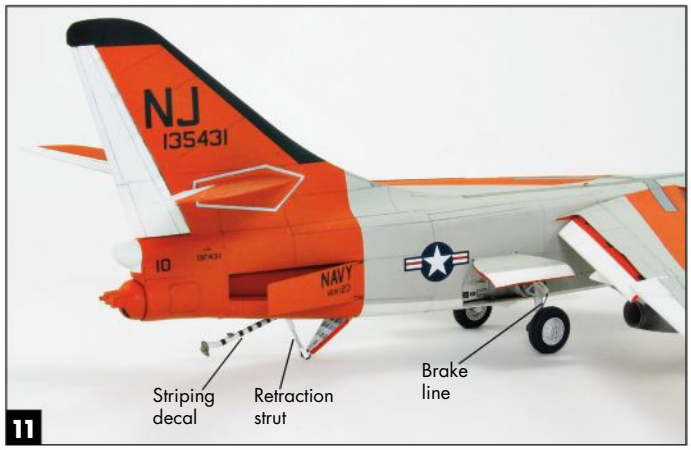


I accented panel lines with an artist's drawing pencil before applying decals. The wing walkway and rescue arrow decals were in the kit; other markings came from my extensive stock of spare decals.

I aimed the final assembly sequence at lowering the risk of breakage. I began with the main landing-gear doors, tail hook, opened dive-brake doors, and the deflected Lone Star flaps; I saved the dropped slats for last. Note the thin, silver decal outlining the travel area around the tail fairing.



I vacuum-formed the canopy using the kit part for a master. I wanted to open the sliding canopy hatch, but first I practiced on the kit part to determine how best to make the cuts. Dymo labeling tape provided a stiff guide for my hobby knife, and I made the cutout successfully on the second canopy copy.

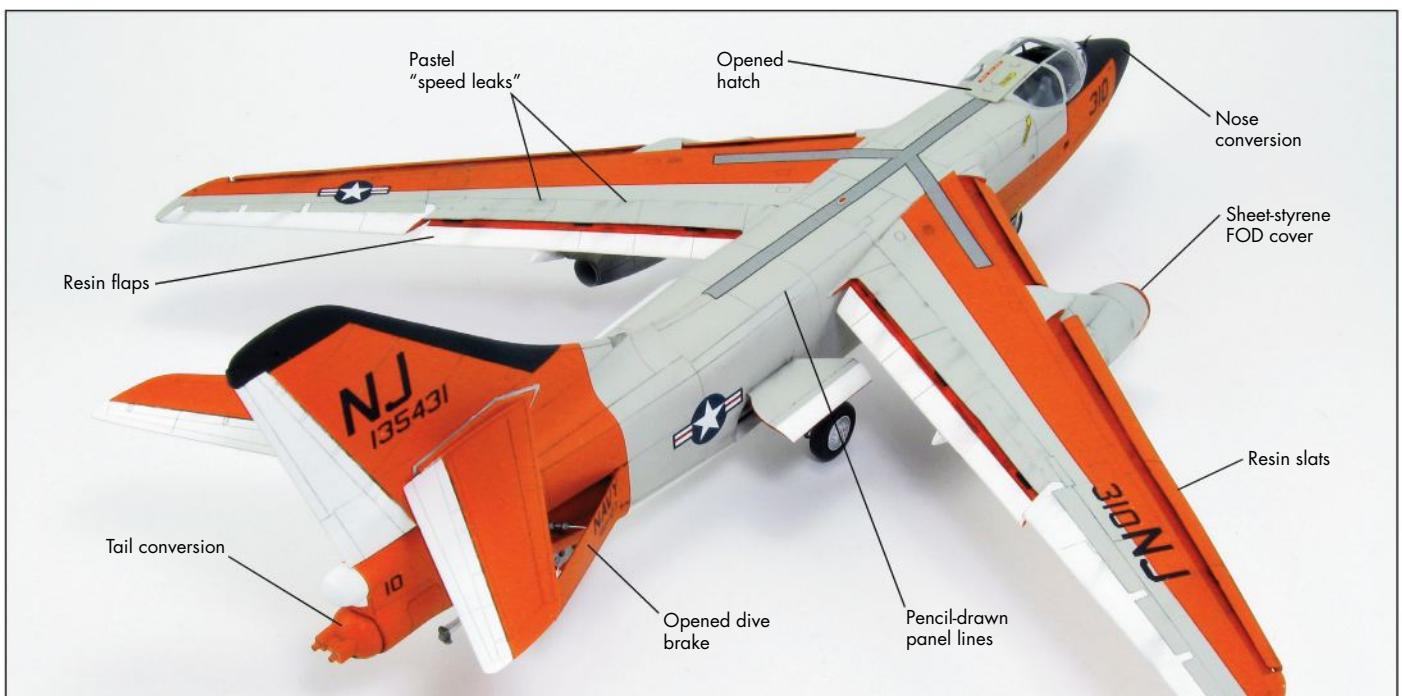


I used armature wire for brake lines on the mains, and styrene rod and tube for the tail-hook retraction strut. I sprayed the tail hook white and dressed it with bits of ScaleMaster black striping decal.

Using the kit canopy frame as a guide, I masked the vacuum-formed canopy and painted the frame light gull gray. The canopy is attached with thinned white glue. References indicated the wind deflector, directly in front of the bomb bay doors, only extended when the gear doors were open. I decided to show it open. Bending the ventral crew hatch was tricky.

SOURCES

A-3B Skywarrior photoetched-metal detail set, Eduard (No. 72 258), www.eduard.com
Resin A-3 slats and flaps, Lone Star Model (No. LSM70390), www.lonestarmodels.com
A-3A/A-3B/KA-3B/EKA-3B Skywarrior resin detail set, Obscureco (No. OBS72021), www.obscureco.com
A3D-1/A3D-2 resin Skywarrior tailgun turret, Quickboost (No. QB 72 205), www.quickboost.net
Douglas A-3A Skywarrior resin nose and gun turret tail, Maintrack Models (No. 72-43), from Precision Enterprises Unlimited, P.O. Box 97, Springfield, Vt. 05156
Rivet decals, Mike Grant, mikegrantdecals.com



Using medium gray pastel powder, I added some "speed leaks" over the wings using a short brush, and just a little more to the engine cowlings and under the wings. Attaching navigation lights painted with Tamiya clear red and clear green and gluing in the nose wheel-well taxi light completed the project. It's a nice addition to my showcase. **FSM**

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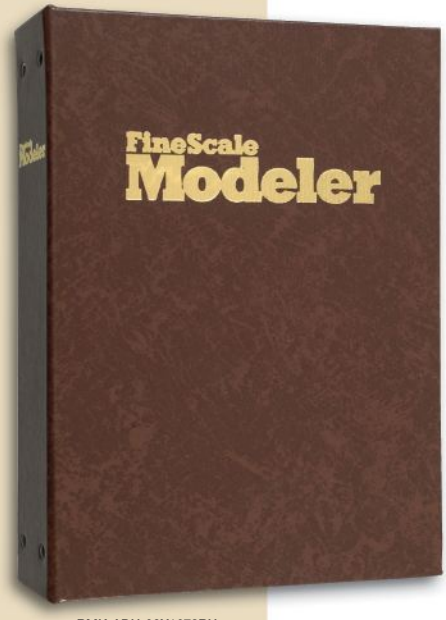

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Questions & Answers

A clinic for your modeling problems

By Aaron Skinner

Gunze Sangyo paint availability

Q It seems to me that it's getting more difficult to find Gunze Sangyo products in Canada. There is only one hobby shop near where I live that sells it, and the stocks are very limited. Is there some kind of paint war I'm not aware of?
– Garry Hulshof
Calgary, Alberta, Canada

A I don't know about Canada, but all of Gunze Sangyo's acrylic paints are out of the market in the U.S. My understanding when they disappeared several years ago was it had to do with reformulation. I don't know when the acrylics will be available again. In the meantime, Gunze Sangyo's Mr. Color enamels and many of its finishing supplies like Mr. Surfacer are still available.

Cutting perfect circles

Q I understand how Mike Muzyka masked his round bases in the July 2013 *FSM*. But I have one question: How does he mask and cut those perfect circles? It's another secret that never seems to get told.
– Craig Kodera
Clermont, Fla.

A Mike used a circle cutter to make the masks for his bases. A circle cutter is a lot like a compass or dividers, with a point at one end that is placed at the center and a blade on the other arm. As the cutter is turned, it cuts a perfect circle. You can buy a circle cutter at art or craft stores.

Hairspray on clear plastic

Q I am using hairspray to chip some paint on an Opel Blitz truck. What about the clear plastic windows? Should I mask over the windows or can I just spray away?
– David Finney
Sierra Vista, Ariz.

A I don't actually know what effect hairspray would have on the clear plastic, but I'd mask them to be on the safe side. The last thing you want to do is take a chance you'll ruin the model.

Looking for spinning props

Q Do you have any ideas or suggestions for making realistic spinning propellers for 1/72 and 1/48 scale aircraft? Are there any companies that make this add-on?
– Eddie Roberts
Spicewood, Texas

A In the October 2003 *FSM*, Paul Boyer cut discs of clear plastic the diameter of the prop using a circle cutter, then airbrushed blurred arcs of black and yellow where the prop blades would be. To see for yourself, you can order back issues by calling Kalmbach customer service at 800-533-6644, or you can order online at -www.finescale.com/backissues.

You can also try PropBlur, photoetched-metal things that look pretty good when painted. The propellers are available in 24/0, which is .9mm in diameter. That would work in 1/32 scale and maybe 1/48 in certain applications. Nice thing about beads is that they already have a mounting hole drilled.

Making scale control-lever knobs

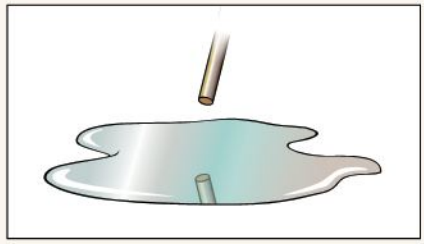
Q I want to put levers in a model's cockpit, and I would like to add small balls or spheres to the handles. Any ideas?
– John Borgerding, Beloit, Wis.

A There are a couple of ways to make the knobs on the end of levers. Both are pretty easy. If the levers are already in place, pace a blob of white glue straight from the bottle — don't thin it with water as you might when attaching clear parts — on the end of the rod. It should sit there and dry as a mostly spherical point on the rod. If it doesn't want to sit there, place the part so the rod hangs down with the knob on the lower end. That should keep the knob round and prevent the glue from running down the rod.

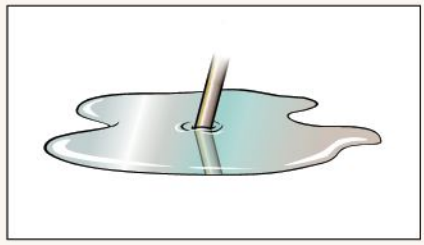
The alternatives involve 5-minute epoxy or super glue and should be done before the levers are attached to the model. Place a puddle of 5-minute epoxy on a sheet of wax paper or other surface. Dip the end of the wire or rod you are using for the shaft into the glue, then hang it with the glue blob down until it sets.

If you are using super glue, put a little glue on wax paper and pour accelerator into a small cup; you don't need a lot, just enough to submerge the end of the rod. Touch the end of the rod to the super glue so you pick up just a little glue. Then dip it in the accelerator so it sets instantly. You can repeat this process, slowly building up the layers until the knob is the size you need.

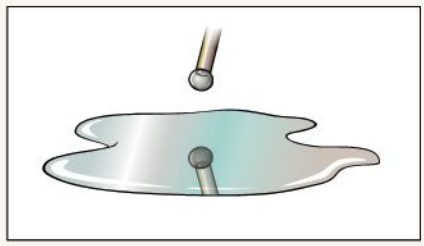
There is another option: Gluing seed beads to the end of the rod to represent the knob. They are easy to control and a lot less messy. The limitation is the size of the beads. The smallest I can find is



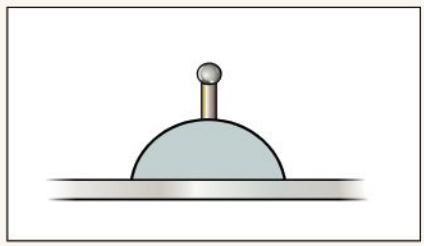
Put a small puddle of white glue, super glue, or 5-minute epoxy on a palette.



Select the diameter of the metal or styrene rod you need and dip one end in the glue.



Slowly pull it out. There should be a ball of glue around the end. Hang it upside down.



It should dry as a sphere. Trim the rod to length, then glue the lever in place.

two-, three-, and four-blade examples, and come in 1/48, 1/72, and 1/144 scales. For more information, visit PropBlur at www.propblur.com.

The most realistic way of representing spinning props is to spin them. Modelers, including Paul, have installed pager motors in their models to spin the blades. You can see exactly how he did it in the January 2003 issue.

How to submit photos to *FSM*

Q I am thinking of building a diorama featuring a B-17 and B-52, and I'd like to send a photo of the diorama to the magazine. Please advise me on which department I should send the photo to. Also, what information on the model do I need to send along with the images?
– Daniel Bennis
Exeter, N.H.

A Thanks for your interest in getting your model published. We are always interested in what our readers have done. Reader Gallery is the section of the magazine you should send the images. You can mail digital images to us on disc or upload them to our FTP site: www.contribute.kalmbach.com. Be sure to include the scale, name, and manufacturer of the model; details about the model (interesting techniques, paint used, modifications, etc.) and your inspiration; and your name, hometown, and mailing address (please remember to credit the photographer, too). We look forward to seeing your model!

Airbrushing Vallejo acrylic paint

Q I have just purchased Vallejo Model Color acrylic paint and would like to use it in an airbrush. I find the paint very thick and have purchased Vallejo's Thinner Medium. What ratio of paint to thinner should I use? Can I use isopropyl alcohol as a thinner? What air pressure works best with this paint?
– Manfred Kothe
Waxhaw, N.C.

A Vallejo makes very good paint, but it takes practice to airbrush. You have regular Model Color; Vallejo also makes Model Air, a paint designed especially for airbrushing. You can airbrush Model Color, but it takes more work to thin correctly and usually more pressure to spray.

If you are using Model Color, I'd start with a 1:1 ratio of paint to thinner and see if that works for you. I have airbrushed the paint at 25-30psi, but had less luck at lower pressures.

The best thing I can suggest is practice until you get the results you want. Stick with Vallejo thinner. Alcohol will turn the paint into goo in your paint cup and gum up the works of your airbrush.

Decal-printing help

Q I loved the decal stories in the July 2013 *FSM*, but I would love some in-depth guidance on creating decals.

I've been fiddling with the Testors Custom Decal System and continue to have problems.

Either my decals come out looking gray when they should be black, or they look good but then bleed when I spray the decal bonding solution. I think the latter is a printer issue, but I'd love some guidance or even a full article on the various ways to create decals.
– Michael Groothousen
Arnold, Md.

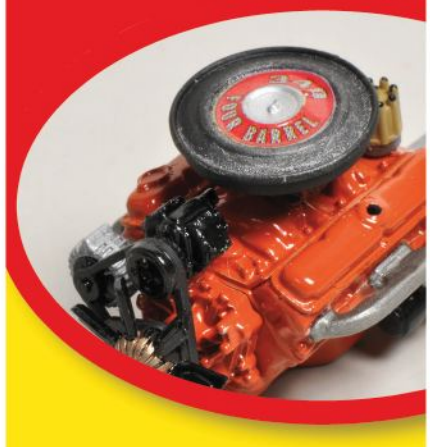
A We've published a couple of articles about printing decals. But the technology is ever-shifting, which makes it hard to keep everything up to date.

I can give you a couple of pointers that might help. Make sure you are using the right paper for the printer. Ink-jet and laser printers use different kinds of decal paper. This may be part of the problem with the ink running when you spray the bonding solution. You could try a different clear coat; for instance, an acrylic may be less likely to cause runs.

Any decals you print tend to be translucent. I've even had commercial laser-printed decals that showed underlying colors. When printing your own, print a couple of each marking, then double them up on the model. That will increase the density and make color shifts less apparent. **FSM**

Got a modeling problem? Our Questions & Answers column is here to help. E-mail questions@finescale.com, or visit FineScale.com and click on "Contact Us." We are not able to conduct lengthy research, such as answering questions on markings and unit histories. We publish letters of general interest in the magazine; however, mail volume and space limitations prevent us from printing every question. Please include your name, town, state, and a daytime phone number.

IN THIS ISSUE



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Builder's guide
by Tim Boyd

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Top models from the original NNL

BUILD A LARGE-SCALE PORSCHE
Part 2
by Bob Downie

MCGRIFF OLDS
Expanded review
by Chuck Kourouklis

ON SALE DEC. 31

Scale Auto

Reader Tips

Solutions and innovations

By Mark Hembree

Practice on a mock-up to get that photoetched metal right

Some photoetched-metal parts have multiple creases and folds, and the instructions are not always clear — and metal fatigue may not permit more than one chance at a fold before the piece snaps. To avoid making an incorrect fold and possibly breaking the part, try this:

Trace the part on a 3" x 5" card. Scribe all the bends in the card and "build" the part. Do it as many times as you like until you are sure how the folds go. Once you are comfortable with understanding how the piece will be formed, go ahead and fabricate the photoetched-metal part.

Wayne Cassell
Littleton, Colo.

Dowel eraser for ejection-pin marks

If you need to remove ejector-pin marks in hard-to-reach places, use double-sided tape to attach sandpaper to the end of a wood dowel to make an "eraser."

Jeffrey Mauck
Queen Creek, Ariz.

Hung-up hemostat?

I bought an inexpensive set of hemostats that worked well but wouldn't release easily. Comparing them to my medical-grade hemostat, I saw that flats had been ground on the med-grade locking teeth while my new ones' teeth had sharp edges. I just filed them flat, and they work much better. Don't overdo it, though, or they won't lock.

Dave McGowan
Mason, Ohio

Making waves with caulk

When modeling the water surface of a waterline ship model, I have found a great (and inexpensive) way to achieve fairly realistic results. I start by painting my base a dark blue. Then I apply clear silicone caulk and spread it with plastic utensils. The caulk dries slowly, giving me time to form it, and it's fairly forgiving. If I want to add bow or stern waves, I can paint the top white and it looks the part; adding patches of various blue shades lends contrast. Even better, after breaking the bank on the model, photoetched metal, paints, and so forth, a tube of caulk costs less than $10.

Michael Groothousen
Arnold, Md.

Would you like to share an idea about a tool or technique? Send a brief description along with a photograph or sketch to "Reader Tips." E-mail tips@finescale.com or visit FineScale.com and click on "Contact Us." Tips are paid for upon publication; if you live in the U.S., we'll need your Social Security number to pay you. *FSM* obtains all publication rights (including electronic rights) to the text and images upon payment.

More health and beauty aids for modelers

Modelers find useful things in "health & beauty" departments, from blush brushes to eyeliners. Car modelers even use nail polishes for paint — but Rod just uses the rack they come in.

My wife recently ordered an acrylic stand for her bottles of nail polish. As I was assembling it, I was thinking what a great workbench space-saver it would make for paints and small tools. The stand comprises five shelves, each with a ⅝"-high facing to keep bottles in place. The unit is 16.5" long, 7.5" high and 8" wide and will hold 75 ¼-ounce bottles of Testors paint, 60 ½-ounce bottles of Testors Model Master paints, 55 10ml bottles of Tamiya paints, or a mixture of different paints, glues, tools, etc. You can easily find several brands and styles on the Internet by searching "acrylic nail polish rack."

– Rod Churchill
Portugal Cove, Newfoundland, Canada

A guide for repositioning figures

I've found an effective way to properly position arms and legs on figures to pose them properly with the model.

For example: To place a seated driver's hands on a steering wheel, put the driver in its seat and place a bit of putty on the flat spot where the arm will attach to the body. Adjust the arm and body to the desired position. Use a felt-tip marker to draw lines around the arm on the torso. Remove the figure from the model, remove the putty, and glue the arm to the torso according to the markings. Slow-curing super glue will allow you to test-fit your figure while the glue cures. Complete the figure after the glue has set completely.

R. D. Barnett
Fort Collins, Colo.

Warming decals

Warm water works best for applying decals. I use a cup warmer that can be set to "Hi" or "Low" temperature; I bought this one on eBay for about $10.

Helmut Beyer
Phoenix, Ariz.

Swapping a coffee break for modeling, Helmut always has warm water for decals.

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Ken saves paint for painting and uses water with food coloring to test his airbrush.

Test airbrush with food coloring

Next time you disassemble and clean your airbrush, here's an inexpensive and effective way to test it after reassembly: Load it with water and a little bit of food coloring. If your airbrush's needle is properly seated, when you close the tip down under pressure nothing should escape the front of the brush. Then open it and spray different patterns onto a white paper towel to ensure the needle and tip are functioning properly. Cleanup is easy; just rinse with water.

Ken Meyer
Colorado Springs, Colo.

Napkins: the quicker picker-upper

Rather than keep a roll of paper towels on the workbench or beside the spray booth, I have napkin holders loaded with Bounty napkins. Like the paper towels, they are very absorbent, and they're the right size for most jobs. Best of all, they are easy to grab in a hurry as they do not have to be separated from a roll. I prefer a basket as the holder for easiest access.

Paul Trimble
South Bend, Ind.

Chopsticks for sanding

Many people use sanding sticks or files for sanding. I have also seen Popsicle sticks and tongue depressors used for custom-made sanding sticks. But I have found that chopsticks also make excellent sanding sticks. Just glue your sandpaper to the chopstick and there you go. You can try the square or rounded chopsticks for different shapes.

David Shipman
Irvington, N.Y.

A wood toothpick with an angled cut makes a smooth, non-scratching tool to apply a bit of plastic polish and remove paint from clear parts.

Cleaning up canopies

Canopy masks are never perfect, but I've found a good way to remove overspray from clear canopies. Angle-cut a wood toothpick to form a nice, sharp, elliptical end. Dip this tip in Novus No. 2 plastic polish and use it to rub away the overspray. The wood will not scratch the clear plastic as the Novus buffs the stray paint away. I can get clean, crisp paint lines, not to mention a nice, clear canopy.

Dean Summers
Keller, Texas

Foam bulkheads

To close off an empty fuselage and block the view through the canopy, use a block of foam rubber slightly larger than the fuselage cross-section. A few drops of white glue will hold it in place as the fuselage halves are joined. The foam expands to fill the void.

Chuck Leniek
Endwell, N.Y.

Correction-oriented filler

I use Liquid Paper correction fluid to fill seams and gaps. It dries quickly and can be sanded to a smooth finish.

Sitki Esenyel
Melbourne, Victoria, Australia

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Michael Barbee, Corporate Circulation Director, 9/30/13

Big Gustav scores on accuracy, detail

The Luftwaffe made the most of Messerschmitt's Bf 109 design. The G-6 was a testament to this, being adaptable and easily produced. It was not the most advanced fighter by the end of the war, but in the right hands it was still a deadly opponent.

While some modelers bemoan another Bf 109 kit, Revell Germany has made an effort to provide a more-accurate representation than previous offerings. Its all-new Bf 109G-6 is cleanly molded in light blue plastic with a well-detailed cockpit, drop tank, optional tail configuration, canopy options, cowling options, and movable flying and control surfaces. Studying the instructions, I could see Revell Germany included some subtle variations via optional parts.

I started construction with the cockpit. I was impressed with the thinness of parts, such as the seat bucket. The molded-on seat belts were a little less impressive. There is an instruction error here: steps 2 and 3 (gun cover) should be reversed. The assembled cockpit module is completed with a wing spar, a great feature that ensures the proper wing dihedral.

The fuselage built up easily. There are choices here to handle the cowl-gun opening, cowl side intake, and short/tall vertical tail. A dry run indicated these parts fit perfectly. Depending on the aircraft you're modeling, you have a choice of the original two-part canopy or the later, one-piece Erla canopy. The clear parts are cleanly molded and very transparent.

Moving on to the wings, I found the kit had an interesting variation on assembly. The upper wing breaks down to two parts, most likely to handle the tire bulge for a future version. The top wing is installed to the fuselage, locking in place on the wing spar, while the wheel wells and radiator interior installs in the top wing. (I believe this is the first Bf 109 kit to accurately show the lightening holes in the gear bays.) The one-piece lower wing is added next.

Revell Germany has loaded the kit with features, including exquisitely detailed landing gear.

Scale-thin parts, such as the seat bucket, key the well-appointed cockpit.

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After that, the outer top wing panels are installed. I found the joint of the top wing panels needed filler to make it look presentable. This complicated assembly may make finishing more difficult for some modelers.

Note and follow the instructions concerning the ailerons and landing flaps. These should not be glued together and then attached. Rather, they are designed to move; add the top and bottom parts separately to trap the hinges.

I was surprised no underwing armament (cannons or rockets) was provided.

The landing-gear legs are multipart assemblies, but quite a study when completed. The gear covers are very thin and to scale.

The propeller and spinner assembly is a bit finicky. The blade profile is a bit off, but the spinner shape, a problem in other kits, looks good.

I painted my Bf 109 "Gustav" with Gunze Sangyo Hobby Color Luftwaffe acrylic paint. Decals are given for two aircraft. These applied well over a gloss coat with a touch of decal solution. No swastika is included; I used an aftermarket decal.

My primary reference was *Aero Detail 5: Messerschmitt Bf 109G*, by Shigeru Nohara and Masatsugu Shiwaku (Model Graphix, ISBN 4-499-20589-1). Also useful was *Jagdwaffe: The Mediterranean 1943-1945; Luftwaffe Colours Volume 4, Section 4*, by Jean-Louis Roba (Classic, ISBN 1-903223-37-7), as it had a photo and color drawing of the scheme I chose.

I completed my Bf 109G-6 in 22 hours. I always enjoy building a 109, and Revell Germany's attention to dimensional accuracy made this one a pleasure. I can recommend this kit to all 1/32 scale enthusiasts.

–Jim Zeske

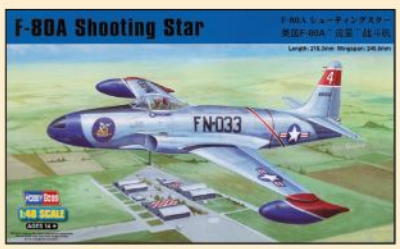
Kit: No. 04665 **Scale:** 1/32
Manufacturer: Revell Germany, 49-05-223-965-0, www.revell.de, from Revell, 847-758-3200, www.revell.com
Price: $30.25 **Comments:** Injection molded, 182 parts, decals
Pros: More accurate than previous kits; great bang for the buck
Cons: Complicated wing assembly can create finish problems

HobbyBoss F-80A Shooting Star

Design of what would become the F-80 began in 1943. But it was in Korea that the Shooting Star became a combat veteran as a ground-attacker.

HobbyBoss' first release of the Shooting Star is the F-80A. Six sprues of gray plastic feature incredibly petite engraved panel lines for 1/48 scale. However, the plastic's grainy texture requires extra work for a natural-metal finish.

The kit is actually an F-80C in a box marked "F-80A." The A model had the landing light in the nose, a World War II-style seat, and no hard points under the wings. The kit has a radome nose, a C-model seat, and wing pylons and ordnance. Instructions show the correct pitot in the leading edge of the vertical stabilizer, but they also show an F-80C's pitot under the nose.



Kit: No. 81723 **Scale:** 1/48
Manufacturer: HobbyBoss, www.hobbyboss.com, from Squadron Mail Order, 877-414-0434, www.squadron.com **Price:** $46.99
Comments: Injection molded, 113 parts (6 photoetched metal), decals
Pros: Durable decals; well-engineered gear wells and doors; fine recessed panel lines **Cons:** No attachment tabs for the front gear doors; no way to mount the engine in the forward fuselage; overcomplicated gunsight and pilot's seat (the latter the wrong style for an A); grainy plastic; incorrectly shaped engine intakes

I started with the ordnance. You're given a choice of bombs or drop tanks for the wing pylons, and either P-38-style or Misawa tanks for the wingtips. The tank halves met nicely at their centers but had gaps at both ends. Clamping the ends tight pushed the center seams out of alignment, making the Misawa tanks useless.

Moving back to Step 1, the cockpit, I found the pilot's seat was overcomplicated (though it looks good when finished). Be careful with the three-piece gunsight — those tiny parts are easy to lose. The decals for the instrument panel fought me all the way but eventually were subdued with Solvaset.

In Step 2, the instructions show the front gear-well and the finished cockpit as a single unit. But there are no locators to connect the pieces as shown. I placed the cockpit in its fuselage locators without glue, glued the gear well in the right fuselage half, then removed the cockpit and closed but did not glue the fuselage. I held the wheel well in place until the glue set, ensuring proper alignment before gluing the fuselage. I saved the landing gear until final assembly.

At first I thought I would depict the aircraft undergoing engine maintenance. But there is no provision for mounting the engine and full tailpipe to the forward fuselage; the tailpipe is secured in the rear fuselage.

I built the wings as directed but left off the ordnance and gear until after painting. However, when I tried to join the wings to the fuselage, either the tops of the wings matched the roots or the bottom matched the fuselage. I went for the wing roots and used layers of Mr. Surfacer to smooth out the 1/16" step on the underside. Next time, I would glue the lower wing to the fuselage first, then mate the upper wings to the roots and trailing edge. This would leave a gap at the leading edge that would be much easier to shim and fill.

I was able to press-fit the horizontal stabilizers, allowing me to attach them without glue after painting. I primed with Mr. Surfacer 1200. After dealing with four sink marks in the nose and polishing the primer smooth, I airbrushed Tamiya gloss black as a base for a natural-metal finish of Alclad II airframe aluminum.

The Alclad II paint's smoothness made gloss before decals uneccessary. The insignia are oversized compared to the markings instructions. Confused, I refloated and lifted them several times. Finally I applied the fuselage stripes, trimming and shaping them to match the instructions, and placed the insignia as the markings guide originally showed. The decals held up incredibly well. The tail stripes required trimming but settled down with multiple applications of Solvaset.

Install parts C3 and C6 (main gear doors) before the landing gear. (I learned this the hard way.) The main landing gear, doors, and well have locators for proper alignment and firm attachment. Not so the front gear doors, which makes assembly tricky. Be careful removing Part A7 from the sprue; I accidentally cut off the locator pins.

The plane's stance is too level — the nose should be up a little — but this could be easily corrected by slightly shortening the main gear.

To weight the nose, I coated small fishing sinkers in super glue and dropped them in the nose before adding the radome cover (Part G2).

The engine intakes look too round, there are some confusing construction options, the grainy plastic requires extra prep, and the stance needs correcting. Still, this is a good kit. The surface detail and fit is lightyears ahead of the old Monogram model. I hope when HobbyBoss releases this as an F-80C they include a pair of Fletcher-style tip tanks.

– Andy Keyes

Academy USS *Indianapolis*

If not for its tragic end, the USS *Indianapolis* might have been best-remembered as the ship that carried the first atomic bombs from the U.S. mainland to Tinian Island, where the B-29 Superfortresses *Enola Gay* and *Bockscar* awaited the payloads that would end World War II. Instead, about a week before the Hiroshima bombing, a Japanese submarine sank the *Indianapolis* in the Philippine Sea. Of the 1,197 aboard the stricken ship, an estimated 880 survived the sinking — only to be decimated in the next four days by exposure, thirst, and shark attacks. Only 317 sailors survived.

Academy's kit provides a choice of either a full hull on a stand (included) or a waterline model. Guns and turrets are movable, and the larger guns have hollow ends. The comprehensive instructions and painting guide are helpful. One set of markings is provided.

Choosing the full-hull version, I found the upper and lower hull dry-fit was fine. The deck was a tight fit — no gaps or seams to deal with. (The break was at a vertical wall in front of the hangar.) Propeller shafts are numbered so you need to note their position. Since the camouflage pattern is in Measure 22, I painted the lower hull in Tamiya hull red and Testors sea blue. The propellers are Testors Metalizer brass.

I assembled the stand and painted it with SnJ Bronze. However, the base's footings are a little on the small side; even with the ship on it, it tipped over easily.

Building the turrets posed no problems aside from having to clean up the barrels' numerous sprue-attachment points. However, the base's fit to the top part of the turret left gaps.

The life rafts are numbered, and there are a few different types, so you have to be careful to keep them straight so you don't use the wrong ones.

Assembling the other armament was challenging, with tiny parts and nonexistent attachment points.

The 40mm barrels have numerous sprue attachment points, making it easy to break the flash hiders. The 40mm mount never gave a positive feel while I was adding the guns. The 20mm cannons, with the stand, shield, and guns as separate pieces, were hard to assemble with very small attachment points. The 5" cannon mount is two pieces that are very small and challenging to glue together.

Attachment points for the superstructures are minimal, making the glue joint less solid than I would like. The mast — part numbers D23, D24, D25 — was difficult to glue together and had a seam that needed to be cleaned up. The radar turret had gaps between the walls that needed filling.

I painted the superstructure with Testors dark ghost gray (No. 1741). Installing the superstructure assemblies on the hull went well. The catapult and aircraft installation went off without a hitch.

It took me 45 hours to build this ship. With some of the above-mentioned issues, I recommend it to experienced builders. It's a lot of parts, and a lot of parts left over — which makes me wonder if another version of the ship is in the future.

– Tom Foti

Kit: No. 14107 **Scale:** 1/350
Manufacturer: Academy, www.academy.co.kr, from Model Rectifier Corporation, 732-225-2100, www.modelrectifier.com **Price:** $59
Comments: Injection molded, 469 parts, decals **Pros:** Good fit of hull and deck; good instructions layout **Cons:** Tiny parts hard to clean up, break easily; stand is undersized

Revell Germany Tornado ECR "TigerMeet 2011"

Even as it approaches retirement, the Tornado is still one of the West's premier all-weather attack aircraft and is available in multiple versions for various missions. One of the more recent is the suppression of enemy air defenses, a role assigned to the Tornado ECR (electronic combat/reconnaissance).

There have been kits of the Tornado in all the popular scales, including previous releases by Revell Germany in 1/144 scale. Even though this kit is not new, the decals are — all 100-plus of them. The kit's decals are for a flamboyant Tornado ECR from TigerMeet 2011, covered in tiger stripes.

The kit is well detailed, with a full armament of two Sidewinder air-to-air missiles and two HARM anti-radar missiles, along with two drop tanks plus chaff and electronic jamming pods. It is missing the LRMTS laser-targeting sensor bump under the nose but includes the option of an open refueling probe. Like most Tornado kits, wings can be swept or not. There are no covers for the wing-sweep cutout in the fuselage, however, so I modeled mine swept.

Kit: No. 04846 **Scale:** 1/144
Manufacturer: Revell Germany, 49-05-223-965-0, www.revell.de, from Revell, 847-758-3200, www.revell.com
Price: $10.75 **Comments:** Injection molded, 63 parts, decals **Pros:** Excellent fit; beautiful decals **Cons:** Gear doors and Sidewinders are over scale (too thick, though that's understandable); no alternate "line jet" markings; a few missing decal-number references

The cockpit has seats, control sticks, and instrument panels. You're on your own for detailing them, however, as there are no panel decals. Don't fret — you can't really see much through the thick canopy plastic.

The fuselage and wing-center sections assemble quickly with no gaps. I recommend permanently attaching the wings as you like them, as the gears on which they swing can disengage. I had to take a thin slice off the front of the spine fairing attached to the fin and rudder to square it and improve fit — once I did, you could not detect a joint. Likewise, the air intakes fit exceptionally well. They project slightly above the fuselage on the real aircraft, so don't assume this is a fit problem in need of correction.

Revell Germany carefully points out the need to remove and fair over the gun ports on the lower fuselage — common to the standard ground-attack version but not present on the ECR — and the removal of some hard points on the fuselage racks to mount rails for the HARM missiles.

Thanks to very good fits and few parts, in little more than five hours everything was assembled, seams were cleaned, and the kit was ready for paint (including the weapons). I left the Sidewinders off since I couldn't find any pictures of this jet with them. I also left off the rest of the underwing stores, the landing gear, gear doors, and nose probe to aid painting. Another four hours and painting was complete; I used Testors RAF medium gray as a close match for the blue-tinted gray apparent in online photos. Detail painting included a Testors RLM 80 olivgrün ECM pod and white for the missiles and chaff pod. The drop tanks required four colors in a tiny area: gray with a white bottom, a Testors true blue tail, and a Testors deep yellow nose. The box art appears to show the tail of the jet as blue, but in photos it's clearly the same gray as the rest of the airframe. The dot patterns of the painting diagram are hard to interpret, but the instructions also correctly call for gray.

Now for the real fun: the decals! Wow … so many decals … Revell Germany has included every stripe, warning, or tiger this jet carries. Again, the lack of contrast in the instructions' drawing occasionally makes it difficult to interpret. But if you study pictures and look at the decals, all becomes apparent. There are a couple of decals not mentioned in the sheet — for instance, a couple of the stripes under the wing — but placement of the leftover decals becomes obvious if you've built a few kits. Luckily, I realized that the decals included the canopy frames before I attempted to paint them — they would have been far too delicate for me to mask.

These were some of the nicest decals I have used — they fit well and, with a bit of setting solution, they settled right down. The only troublesome area was around the refueling probe. I had to touch up with Testors deep yellow — a near-identical match. Even the canopy frames fit well.

After almost five hours of tiny strips and stencils, I attached all the leftover bits and pieces and my teeny Tornado was finished. I clocked 14 hours altogether, split evenly among building, painting, and decaling. I think this kit can be built and painted by nearly any modeler. But you'll probably want a little practice before tackling the many decals of this kit.

– Chuck Davis

Dragon SAS ¼-ton patrol commander's car

Formed in the summer of 1941 by David Stirling, the British Special Air Service was created as a commando force to operate behind enemy lines, often attacking Luftwaffe aircraft on the ground in North Africa. The SAS' primary vehicle was the venerable ¼-ton jeep. specially adapted to operating in the harsh desert climate.

Dragon has released a "new" kit it calls "SAS ¼-ton 4 x 4 patrol commander's car" (mustn't say jeep without licensing). It's based on the Dragon kit released several years ago; the main updates are the wheels, which were a major disappointment in the original kit, and a new main-body shell. Besides the standard combat tires, the kit also includes a set of road-tread tires.

There are enough jerry cans to fill the racks — both Allied and German types — as well as two figures that are the same bodies with alternate arms and heads.

Decals provide instruments and data placards for the dashboard, while a small photoetched-metal fret covers the fuel-can racks and straps, a nice pair of sand channels, and the hood tie-downs.

The kit's box is large for such a small vehicle — and it is crammed with parts. Despite the ample packaging, I found both the exhaust/muffler and the rear axle were broken inside my box.

I started with the chassis. The road tires are made up of several slices to get a good representation of the tread. I mounted the standard combat tires on my kit, a more-appropriate choice considering the rest of the equipment. The motor is missing the generator on the right side — there is just a pulley, suspended in air by the fan belt — but you'll only be able to see the bottom of the engine once the hood is in place. I wish the springs and axles had more positive locating pins. Despite the one-piece frame and every effort to get all four wheels on the ground, I wound up with one floater.

The body goes together quickly; just add the grille and tailgate to the body. Two grilles are included: one with most of the ribs removed, typical of North African jeeps, and one with all the ribs, an indication of future variants. I assembled the hood but left it loose so I could install the radiator after painting. Dragon includes clear parts for the headlights.

I found that assembling the rear photoetched-metal storage racks was the most difficult part of this kit. After assembling the various jerry cans and weapons, I was ready to paint.

Painting began with a base coat of Tamiya desert yellow. Then I lightened the base with British light stone (BS61) mixed with Tamiya paints using a formula I found in an article on the Miniature Armoured Fighting Vehicle Association's website, www.mafv.net, in an article called "British Vehicle Camouflage, 1939-45," by Mike Starmer and Mike Cooper. I added some blotches of BS3 green mixed from the same source.

After gluing the frame to the body, I added all of the jerry cans. The light stone was a bit bright, so I toned it down with a filter of burnt umber artist's oils. After a coat of Vallejo clear gloss, I added the decals to the dashboard and gave the model a pinwash of Vandyke brown artist's oils. I painted the figure with Vallejo acrylics. After applying pigments mixed with mineral spirits to the wheels, I mounted the wheels and guns.

I spent about 23 hours on my SAS car, mostly on painting.

The finished model matches almost exactly the dimensions listed in the *Standard Catalog of U.S. Military Vehicles*, by David Doyle (Krause, ISBN 978-0-87349-508-0).

Dragon has done a good job of updating its kit, correcting many of the earlier problems. There are already several versions of this kit available, along with a figure set that reproduces the famous photograph of David Stirling next to several SAS jeeps.

– John Plzak

Kit: No. 6724 **Scale:** 1/35
Manufacturer: Dragon, www.dragon-models.com, from Dragon Models USA, 626-968-0322, www.dragonmodelsusa.com
Price: $42.99 **Comments:** Injection molded, 340 parts (65 photoetched metal), decals **Pros:** Nice wheels; clear headlight lenses; instrument panel decals; one-piece body and frame
Cons: Broken parts; photoetched-metal gas-can racks pose a challenge

Trumpeter A3D-2 Skywarrior

The A3D Skywarrior, the U.S. Navy's primary carrier-based heavy attack aircraft of the late 1950s and early '60s, saw major action in the Vietnam War. Its adaptable design yielded major variants, such as a tanker and an ECM version.

Trumpeter's new A3D-2 Skywarrior is a welcome addition to 1/48 scale U.S. Navy aircraft kits, and the first time this aircraft has been offered in this scale.

The kit is cleanly molded in light gray plastic. Details include wing- and tail-fold options, radar equipment, an open bomb bay, vinyl tires, and photoetched-metal.

The fuselage interior is highly detailed.

Kit: No. 02868 **Scale:** 1/48
Manufacturer: Trumpeter, www.trumpeter-china.com, from Squadron Products, 877-414-0434, www.squadron.com **Price:** $99.99
Comments: Injection molded, 465 parts (87 photoetched metal, 3 vinyl), decals
Pros: Detailed molding; first A3D in this scale **Cons:** Complex build with fit issues; lack of positive locator points make folding the wings and tail a difficult option

The front includes a radar (which I didn't use since I planned to attach the radome permanently).

There is a cockpit, a bomb-bay tunnel, and a full bomb bay. Each is a separately built module; following the instructions I proceeded accordingly.

Once I installed the cockpit and bomb bay assemblies in the fuselage, I found the fuselage halves would not join. My solution was to remove the bomb bay and close the doors.

This allowed the fuselage to come together more easily but revealed another problem: The doors are undersized, slightly warped, and have no positive attachment for closing them. I solved the attachment issue by gluing styrene strip inside the bay. The lack of positive locators would also make it difficult to display the doors open.

The dive brakes are designed to be assembled open, but could be closed with a little extra work.

I built the separate tail section, with its tail-gun elements, by the instructions, but its fit at the join was poor: It was wider than the fuselage at the attachment. I went ahead with the build and left the tail as is. Had I to do it again, I would attach each side of the tail section to its fuselage side to achieve a smooth join.

The kit includes a large refueling probe that is too long for the bomber version; it is more appropriate for the tanker and other versions. (Could this presage a future release?) I went with the part as it was. Later, I found a photo of a bomber version with no refueling probe at all!

When choosing the vertical tail parts (there are two options), use the parts M9 and M10; this is the standard tail. The parts with the pod projection — parts M4 and M5 — appear incorrect for the bomber, despite the box art. There are other exterior parts called for in the instructions that don't look right for the bomber; check your references.

The design of the wing and vertical tail assembly seem to favor the folded option, but I could not see how the small photoetched-metal hinges would hold a folded wing or tail. Again, assembly was impeded by a lack of positive attachments. Extended, the wing and tail are merely butt-joined. I reinforced the wing joints with plastic card on the inner surface.

Overall, I found the instruction sequences created problems. Careful test-fitting is strongly suggested.

I painted my Skywarrior with a combination of Tamiya spray and bottle paints. I discovered too late that Trumpeter's painting instructions neglect to mention that the upper half of the ailerons and elevators should be white. Decals are provided for one aircraft, but extra decals are provided in the form of slanted numbers to represent other aircraft. The decals performed well, lying down with a little setting solution.

I completed my Skywarrior in 32 hours. It's big and impressive, but I was less than impressed with the kit's engineering. Given the design issues, I recommend this kit to experienced modelers who are looking for a challenge.

– Jim Zeske

Tarangus Saab J 29A/B Tunnan

For a relatively small country, Sweden has produced some magnificent jet aircraft, culminating in the sleek JAS 39 Gripen. All of them, however, trace their heritage back to the not-so-sleek J 29 Tunnan, Saab's first swept-wing fighter. As a contemporary of the F-86 and Mystère IVA, it was a spirited performer that could hold its own with any of them. Its rotund shape came from the diameter of the engine and the necessity of having the main gear retract into the fuselage because the wings were so thin. It was nicknamed the "Flying Barrel" for obvious reasons.

The J 29 is Tarangus' first effort in 1/72 scale. The Swedish company chose to offer the A/B version which lacks the "sawtooth" leading-edge wing extension found on later aircraft.

Molded in soft gray plastic, the parts display fine panel lines and surface detail. Resin parts add detail to the cockpit and wheel wells, and the excellent decals provide markings for two Swedish air force planes and one in United Nations service.

An eight-page instruction booklet and a separate two-page marking guide round out the package. A nice touch is the use of the Tarangus website to view walkaround pictures of the Tunnan.

This is a limited-run kit, so expect to exercise your modeling skills to get the job done. I generally followed the instructions, which have you start with the cockpit. Detail here is a little soft. But the resin seat is nice; it just needed some tape belts/harnesses and a wire ejection handle to make it look better. Be sure to add plenty of ballast to the forward fuselage to keep the jet on its toes.

With a modest parts count, construction proceeds quickly. I did leave off the exhaust (Part 14) until the end so I could use the opening to insert an old paintbrush handle to hold the model while painting.

The only areas requiring additional attention were the wing/fuselage joint and the wing-mounted pitot tubes. On my model, the wing roots were slightly thicker than the corresponding stubs on the fuselage. Careful sanding will remedy this situation.

Regarding the pitot tubes, there is not much purchase where they join the wings. Rather than drilling holes in the wings, I filed notches and super glued the pitot tubes. Then, I sanded the areas flush with the wings. Predictably, I broke one off near the end of the project.

Early on, I decided to do the version with the black exercise stripes and day-glo orange wingtips. First, I sprayed on Alclad II black primer. Then I masked the stripes; Tarangus thoughtfully provides the dimensions for these.

Next, I used Alclad II dull aluminum as a base and sprayed other metallic shades for contrast. In retrospect, the model looks too dull to me; I should have used a different base color.

I sprayed the fluorescent orange panels with Testors enamel over Tamiya white acrylic. The external fuel tanks remained natural metal. The decals were excellent. They were opaque, easily moved into position, and settled into the recessed detail without any setting solution.

Tarangus has given us a really nice model of this important early jet fighter. A beginner who has completed a few models can handle this build. I spent 23 hours on my Tunnan, with the masking and painting consuming a large portion of that time.

I hope Tarangus expands its 1/72 scale product line.

– Phil Pignataro

Kit: No. TA7201 **Scale:** 1/72 **Manufacturer:** Tarangus AB, www.tarangus.se **Price:** $40 **Comments:** Injection molded, 55 parts (5 resin), decals **Pros:** Fine surface detail; excellent decals; nice resin castings; Internet references for pictures of the aircraft **Cons:** Ejector-pin marks in cockpit; minor fit issues

Xuntong Tupolev Tu-2S

Newcomer Xuntong Model's first kit is a different one: The Soviet Tupolev Tu-2 medium bomber is an interesting choice for a maiden voyage, to say the least.

Inside the box are nearly 400 gray styrene parts. Initially, I thought the molds looked OK. But after taking a closer look, I noticed that the panel lines were inconsistent. I also noticed quite a bit of mold-release agent on many of the parts. So, make sure to wash your parts before starting the build.

Kit: No. B48002 **Scale:** 1/48 **Manufacturer:** Xuntong Model, www.xtmodel.com.cn, from Stevens International, 856-435-1555, www.stevenshobby.com **Price:** $59.98 **Comments:** Injection molded, 397 parts, decals **Pros:** Nice decals with lots of options; two complete engines; brilliant clear parts **Cons:** Poor fits; inconsistent panel lines; thick, oily moldings; difficult instructions

The instructions are a 24-page, magazine-style booklet. A parts tree breakdown, brief history of the Tu-2S, color reference chart, and paint/decal guide are included. The painting guide is nice but covers only two of the eight marking options. This leaves you unsure of how to paint the other six options.

There are no steps in the instructions. Instead, the directions are to build assemblies, join them to larger assemblies, and so on. It's easy to get things confused.

The build starts in the cockpit and interior fuselage. Early on during the build, I decided to keep my bomb bays closed so I didn't need to add all the parts for the fuselage interior. Cockpit detail is sufficient but not spectacular; the same can be said for the tail-gun area.

Joining the fuselage halves was a huge problem. The parts were warped and didn't match. I needed a lot of time and a lot of filler to get things to look decent.

On the other hand, the tail assembly was nice and fit to the fuselage halves with no issues. The tail wheel, however, was very fragile. After it broke, I had to reinforce the assembly with super glue. You can build two full engines if you'd like to show them. The detail of these assemblies is actually pretty good. That said, don't build the engines if you are going to put the cowls over them — none of the engine will be seen. That could save you a few hours of build time.

The bottom of the wings was longer than the top, so joining the two was a problem. You will have to sand down the wingtips to get them to join. The wing-to-fuselage fit was good topside. The bottom side was a different story: A large gap required filling.

Clear parts were fine, except my sample had a broken part (E7). Nonetheless, the plastic was transparent and scratch-free.

I painted my bomber with Testors Model Master field green and underside blue and used the markings for the Polish naval air force. The decals were outstanding; they laid down with no problem and didn't silver after a flat coat.

My model took 65 hours to complete (much more than I expected). I was disappointed overall with the fit of the parts. However, the completed model looks good. If you are willing to put in the work, you can build this kit into a good-looking Tu-2S.

– Chris Oglesby

Airfix Quick Build F-22 Raptor and Apache helicopter

Introducing boys and girls to the scale modeling hobby remains a constant goal of most model manufacturers, and, indeed, many hobbyists. Snap-together kits of popular subjects have been a mainstay for decades. However, these have been mainly targeted at the 8-and-older crowd. With its new Quick Build system, Airfix aims to lower the bar for novices as young as 5 years.

Lucky for me, I have a 5-year-old son who enjoys sitting at the workbench. He was the perfect test subject for two of Airfix's new kits: the F-22 Raptor and the Apache helicopter gunship. Both are molded in durable, smooth, glossy plastic — primarily gray for the Raptor, dark green for the Apache; wheels, canopies, and rotors are molded in black.

Upon opening the Raptor's box, the first thing we noticed was the parts don't come on sprues but rather in plastic bags, looking, feeling, and building very much like Lego or Mega Bloks.

The parts are the right size for small, inexperienced fingers to grasp and push together and would definitely be easier for older children.

We built the Raptor first. As enthusiastic as my son was, I realized right away that this was going to be a team effort. The instruction sheet, while simple for an experienced builder, can be confusing for youngsters. The illustrations are small and the parts tend to look the same, making placement for kiddos a bit tough. One or two parts going together in a single step would have been better than the three or four most often shown.

So, with me interpreting and guiding and he building, the two of us assembled the fighter and stand. It took all of 10 minutes. No sooner was it finished than my son immediately wanted to build the Apache. Fifteen minutes later, he added a helicopter to his collection. Markings for both models come as a simple but nice set of stickers that adhere well.

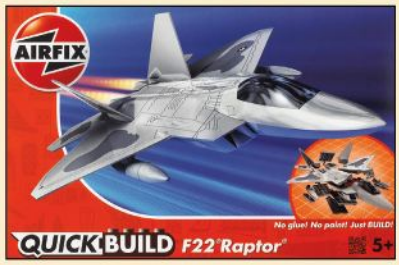
The finished models look great — they have smooth finishes, some panel lines, and, in the Apache's case, a rotating main rotor. All of the connection dots are hidden and the parts fit securely and require no cleanup.

What's more, they have incredible playability. Once we were finished, my son flew them around the house for nearly an hour. Then he proudly displayed them on his mother's computer desk, regaling her with stories of how we built them together.

Age 5 is at the very outside range for these kits, with the sweet spot being 7-10. The kits accomplish three specific goals: a low bar for entry into the hobby; plenty of play value after they're built; and promoting quality time between older modelers and novices.

After he had put the Apache and Raptor on his shelf, my son asked me, "Please, can you keep getting me more models?" I think that says it all.

– Tim Kidwell



RAPTOR
Kit: No. J6005 **Scale:** None stated
Price: $19.95
Comments: Injection molded, 27 parts, stickers

APACHE
Kit: No. J6004 **Scale:** None stated
Price: $19.95 **Comments:** Injection molded (40 parts), stickers
Manufacturer: Airfix, 44-1428-701191, www.airfix.com, from Hornby America, 253-922-7203, www.airfix-usa.com **Pros:** Right shapes; easy, solid assembly **Cons:** Instructions printed a bit small and dark

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Alpha Precision Abrasives, Inc. 41
ARA Press 19
Aves Studio 41
Bluejacket Shipcrafters 41
Cedar Creek Trading Post 64
Click2detail.com 64
Colpar's Hobbytown USA 64
Dean's Hobby Stop 64
Dioramas Plus 64
Dragon Models USA 67
Evergreen Scale Models 7
Fantastic Plastic Models 64
Finescale Modeler magazine 49
Finescale Modelers Binders 49
Finescale.com 65
Friulmodel KFT 18
Full Circle Hobbies 64
Hornby America 2
ICM 10
J Bar Hobbies 64
JAC Hobbies 49
Megahobby.com 64
Micro-Mark 11
Model Rectifier Corp. 68
Oldmodelkits.com 64
Pace Enterprises 18
Paragrafix 18
Roll Models 49
Scale Auto magazine 51
Sprue Brothers 7
Squadron Mail Order 9
Strike Force Hobbies 64
Tamiya America, Inc. 4
Totalnavy.com 49
Toy Train Heaven 7
True Scene Modeling 64
Wargaming America 3
Zvezda USA 41

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